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VOL. I.—30TH YEAR. SYDNEY, SATURDAY, APRIL 24, 1943. No. 17.

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Table of Contents.

[The Whole of the Literary Matter in THE MEDICAL JOURNAL OF AUSTRALIA is Copyright.]

ORIGINAL ARTICLES— Page.
Antibacterial Substances Produced by Micro-organisms, with Special Reference to Those Produced by Moulds, by Nancy Atkinson .. 359
A Rapid Method for Cross-Matching of the Blood of Donor and Recipient, by C. B. Hudson 362

REPORTS OF CASES—
A Case of Cavernous Sinus Thrombosis with Recovery, by P. H. Doyle 363

REVIEWS—
The Hæmorrhagic Diseases and Hæmostasis 364
Vitamins and Health 364
A Year Book in Eye, Ear, Nose and Throat Conditions 364

LEADING ARTICLES—
The Meeting of the Federal Council 365

CURRENT COMMENT—
Toxæmia of Pregnancy 366
Closure of the Ductus Arteriosus 367

ABSTRACTS FROM MEDICAL LITERATURE—
Physiology 368
Biological Chemistry 368
Medicine 369

BRITISH MEDICAL ASSOCIATION NEWS— Page.
Meeting of the Federal Council 370

CORRESPONDENCE—
Treatment of Burns 383
The Treatment of Compound Fractures 383
The Selection of Medical Students 383

NAVAL, MILITARY AND AIR FORCE—
Decorations 383
Casualties 383

AUSTRALIAN MEDICAL BOARD PROCEEDINGS—
Queensland 383

OBITUARY—
William Cleaver Woods 384
Brian Formby Moore 384
Arthur Edward Harrison Salter 384

NOMINATIONS AND ELECTIONS 384

MEDICAL APPOINTMENTS 384

BOOKS RECEIVED 384

DIARY FOR THE MONTH 384

MEDICAL APPOINTMENTS: IMPORTANT NOTICE .. 384

EDITORIAL NOTICES 384

ANTIBACTERIAL SUBSTANCES PRODUCED BY MICROORGANISMS, WITH SPECIAL REFERENCE TO THOSE PRODUCED BY MOULDS.

By NANCY ATKINSON,[1]

From the Institute of Medical and Veterinary Science, Adelaide, South Australia.

IT is well known that in a mixed culture of micro-organisms one particular species frequently suppresses the growth of another. Much work has been done to elucidate the mechanism of this antagonism, and recently it has become clear that in many cases the effect is due to the presence of definite metabolic products of the dominant species, non-toxic to itself but highly toxic to other species. Microorganisms of many kinds may produce antibacterial substances which have a selective action against certain bacteria. Thus an antibacterial action has been described in both spore-forming and non-spore-forming bacteria, in actinomycetes and in moulds. Although many kinds of microorganisms produce antibacterial substances, relatively few of these inhibitors have been isolated in a pure form. The study of antibacterial substances of this kind presents a field of research offering great possibilities for the treatment and cure of infectious disease, and further work may easily lead to the isolation of a series of new, naturally occurring chemotherapeutic agents.

An antibacterial substance produced by a spore-forming bacterium *Bacillus brevis* was described under the name tyrothricin by Dubos and Hotchkiss.[1] The organism was grown in a special tryptone liquid medium, and the tyrothricin, which was insoluble in water but soluble in alcohol, was easily extracted from the culture. Further treatment of tyrothricin with acetone and ether resulted in its separation into two fractions, a soluble part (gramicidin) and an insoluble part (tyrocidin). Gramicidin was a crystalline product with a molecular weight of about 1,400 and a suggested empirical formula $C_{74}H_{108}N_{14}O_{14}$; it had no free basic or acidic groups, but contained ten molecules of amino-acids, of which two or three were tryptophane residues. Tyrocidin also was crystalline with a molecular weight of approximately 900 and a suggested formula $C_{44}H_{62}N_8O_{13}$; it was built up of amino-acids with one tryptophane and one tyrosine group per molecule (Hotchkiss).[2] Thus both gramicidin and tyrocidin appeared to be polypeptide in nature. They differed in their antibacterial activity, gramicidin affecting only Gram-positive organisms, especially cocci, while tyrocidin was active against both Gram-negative and Gram-positive species. Both these substances were highly toxic on injection into animals; 0·3 milligramme of gramicidin given by the intraperitoneal route was sufficient to kill a mouse. However, they could be used locally without toxic symptoms, and Herrell and Heilman[3] administered tyrothricin locally in a concentration of 200 microgrammes per ml in twelve cases of various kinds in which Gram-positive organisms were present. They reported no demonstrable damage to the tissues nor evidence of toxicity, but marked beneficial effects in most cases. Some success also has been reported in the elimination of carriers of hæmolytic streptococci by spraying with tyrothricin (Schoenbach *et alii*).[4] In the veterinary field gramicidin has been used with success in the treatment of chronic bovine streptococcal mastitis (Little *et alii*).[5]

Antibacterial substances may also be produced by non-spore-forming bacteria, and a vast literature exists dealing with their antagonistic effects on other bacteria. However, there is a great deal of controversy concerning the nature of the active substances, of which only some of those produced by *Pseudomonas pyocyanea* have so far been described adequately (Schoental).[6] The pseudomonates are the non-spore-forming bacteria most frequently mentioned as active antagonists to other bacteria, especially *Bacterium typhosum* and *Bacillus anthracis*; Schoental[6] isolated three active principles from chloroform extracts of cultures of *Pseudomonas pyocyanea*: pyocyanin, a green pigment, α-oxyphenazine, a yellow pigment, and a colourless bacteriolytic substance. None of these substances were

[1] Part of this paper was read before a meeting of the Medical Sciences Club of South Australia.

enzymic in nature, and therefore the old term "pyocyanase" used to describe a bacteriolytic substance of *Pseudomonas pyocyanea* does not seem applicable to any of them. Both the pigments are bactericidal to a variety of organisms, but a-oxyphenazine is less toxic and more stable than pyocyanin and therefore better adapted to therapeutic use. The third antibacterial substance is highly bactericidal to *Vibrio choleræ*, and so far is inadequately characterized.

Antibacterial substances may be produced by actinomycetes. Waksman and Woodruff[7] studied a new species, *Actinomyces antibioticus*, isolated from soil, producing an antibacterial substance which they called actinomycin. Subsequently Waksman and Woodruff[8] separated actinomycin into two constituents by use of petroleum ether—actinomycin A, which was crystalline, orange-red in colour, and insoluble in petroleum ether; and actinomycin B, which was crystalline, colourless and soluble in petroleum ether. Actinomycin A was actively bacteriostatic and bactericidal; Gram-positive bacteria were more susceptible than were Gram-negative bacteria, and a concentration of 1/2,500,000 was active against certain of the former. Actinomycin B was bactericidal, but not bacteriostatic. The chemical nature of actinomycin A has been described by Waksman and Tishler.[9] It appears to be a polycyclic nitrogen compound, of molecular weight about 800 and possible molecular formula $C_{37}H_{39}N_7O_{16}$. From its behaviour towards reducing agents, it appears to have a reversible oxidation-reduction system of a quinone type. It is highly toxic to laboratory animals. Out of 250 strains of actinomyces tested, only *Actinomyces antibioticus* produced actinomycin. More recently Waksman *et alii*[10] have described a new substance, streptothricin, produced by actinomycetes, particularly active against Gram-negative bacteria, and much less toxic to laboratory animals than actinomycin. Other inhibitory substances produced by actinomycetes are actinomycetin (Welsch)[11] and a lysozyme type of substance. The former has a lytic action on certain Gram-positive bacteria, and much better results are obtained in the presence of the living mycelium of the antagonist. The most recently described substance is proactinomycin (Gardner and Chain[12]), which is bacteriostatic to Gram-positive cocci and the Neisseriæ.

Antibacterial substances are also produced by moulds. The best known example in this group is penicillin, described first by Fleming[13] and produced by *Penicillium notatum*. It is present in filtrates of cultures of the penicillium in liquid media of various kinds; Fleming's penicillin was produced in ordinary nutrient broth. It was very active against the Gram-positive cocci, but not nearly so active against Gram-negative bacilli such as the typhoid bacillus. According to Fleming, crude penicillin filtrate in large doses was non-toxic for animals, was non-irritant on local application, and was therefore a better antiseptic for local application in infections with penicillin-sensitive organisms than was carbolic acid. More recently Chain *et alii*[14] and Abraham *et alii*[15] have continued the study of penicillin as a therapeutic agent. The production and purification of the substance is very laborious. It requires the growth of the penicillium in liquid medium distributed in containers to give a depth of not more than two centimetres. Incubation for about a week is then necessary. The penicillin is extracted by adjustment of the culture fluid to pH 2·0 and treatment with amyl acetate or ether. This process must be performed rapidly, as penicillin is quickly destroyed in acid solution. Further purification of the extract produces a hygroscopic yellow powder, the yield being about one gramme from 100 litres of culture fluid. This powder is active against *Staphylococcus aureus* and hæmolytic streptococci in a dilution of 1/1,000,000. The most recent work of Abraham and Chain[16] and Florey and Jennings[17] describes a preparation with the even greater activity of about 1/25,000,000 against staphylococci. An activity of 1/30,000 is manifested also against *Bacterium typhosum*. No interference with the action of penicillin is produced by mixing it with serum, blood, pus or tissue autolysates. In a few clinical trials, necessarily not extensive on account of the difficulties of preparing sufficient quantities, there was general improvement in the patient's condition, and Florey and his colleagues concluded that "penicillin is a new and effective type of chemo-therapeutic agent and possesses some properties unknown in any antibacterial substance hitherto described". It is unfortunate that we still do not know its chemical nature. Abraham and Chain[18] have not yet succeeded in obtaining it in a crystalline form, though it has been purified to a high degree. Analytical figures on the purest specimens have suggested formulæ for the barium salt, such as $C_{28}H_{32}O_{10}N_2Ba$, and probably several hydroaromatic ring systems are present in the molecule. Penicillin is so unstable to most of the usual chemical reagents that the elucidation of its chemical structure is a difficult task, and the prospect of its synthesis seems remote.

Another mould product is gliotoxin formed by a species of *Trichoderma*. This substance has recently been described by Dutcher[19] as a crystalline product of formula $C_{13}H_{14}O_4N_2S_2$; probably it is an indole derivative. It was first recognized as a fungicidal agent, but has recently been shown to be active also against bacteria. Under the experimental conditions one or two microgrammes per mil were sufficient to inhibit the growth of certain Gram-positive cocci and ten microgrammes per mil to inhibit that of certain Gram-negative bacteria. It is toxic to animals in doses of 50 to 75 milligrammes per kilogram of body weight.

An antibacterial substance has recently been described by White and Hill[20] from a strain of *Aspergillus flavus*; it is produced only on a tryptone or peptone medium. The nitrogenous material seems to be the source of the active substance, which may be obtained in crystalline form from filtrates. This work is at present in the experimental stage, and until more of the substance is available its chemical constitution, which does not seem to include nitrogen, cannot be determined. It is active in a dilution of 1/40,000 against hæmolytic streptococci group A and less active against staphylococci and *Bacterium coli* in that order.

Another substance produced by an aspergillus has been described by Glister.[20] It inhibits the growth of Gram-negative as well as of Gram-positive organisms; an extract of the filtrate is active in a dilution of 1/200,000.

Active mould products have also been described by Raistrick *et alii*[21] and by Oxford *et alii*.[22][23] Two of these products, penicillic acid and citrinin, both from species of penicillium, have proved to be active, though not to the same extent as penicillin. The former is active against both Gram-positive and Gram-negative bacteria, the latter only against Gram-positive organisms. The activity in both cases is present at a dilution of 1/10,000. Both of these substances are, however, more easily produced than penicillin, penicillic acid being obtained in quantities of the order of 2·25 grammes per litre of culture fluid and citrinin 2·0 grammes per litre, the first by extraction with chloroform and the second by simple acidification. Penicillic acid is white and crystalline and has the empirical formula $C_8H_{10}O_4$; citrinin is yellow and crystalline, having the formula $C_{13}H_{14}O_5$.

Original Work.

From this account of antibacterial substances produced by microorganisms, it is evident that the capacity to produce such substances is probably widespread. Work was therefore commenced in this laboratory with the object of testing various microorganisms for inhibitory substances. So far the organisms tested have been moulds. It is obvious that the metabolic products of the growth of any microorganism in artificial culture media will depend to a great extent upon the nutrient substances present. Moreover, some metabolic products are transient and, being further metabolized, never appear as end products. Organisms should therefore be grown on different media and tested after varying periods of incubation. It must be realized that when in the present paper an organism is described as not producing any inhibitory substance, the statement refers only to the given set of experimental conditions.

Method of Testing for Antibacterial Activity.

The following method was used:

A boring approximately one centimetre in diameter was removed with a cork-borer from the centre of a serum-agar plate. A few drops of melted agar were then introduced to seal the remaining serum-agar to the glass of the Petri plate. The plate was thoroughly dried, after which approximately 0·5 millilitre of the fluid to be tested was introduced into the cavity. A loopful of a young liquid culture of the bacterium against which activity was sought was stroked from the edge of the cavity to the edge of the plate, only a small area being covered. Five different species of bacteria could generally be used on the one plate. After inoculation the plate again was dried for a short time and was then incubated at 37° C. for twenty-four hours. When the fluid in the cup was inhibitory to any of the types of bacteria used, these organisms failed to grow right up to the cup; growth appeared at different distances from the cup according to the degree of activity against the particular organism.

Results.

The medium for growing moulds was that of Czapek-Dox as modified by Abraham *et alii*[1] for the production of penicillin. It was inoculated directly with moulds growing naturally upon various materials. When mixed cultures resulted, a "negative activity" finding was discounted, the mixture was separated, and each member was tested separately and recorded only as inactive after this test had produced a negative result. If a mixed culture proved to be active, the active member was isolated and tested again before being recorded as active. In this way reactions due to the joint action of a mixture of moulds, and not to any one, would have been detected. After six days' incubation at 18° to 20° C., 17 out of 39 moulds tested showed some antibacterial activity. These 17 active moulds could be divided into two groups according to their activity against the test organisms: *Bacterium coli*, *Bacterium typhosum*, *Corynebacterium diphtheriæ mitis*, *Staphylococcus aureus*, *Streptococcus viridans*. Group I of the active moulds caused inhibition of the growth of *Staphylococcus aureus*, *Streptococcus viridans* and *Corynebacterium diphtheriæ*, but did not inhibit the growth of *Bacterium coli* or *Bacterium typhosum*. Group II caused inhibition of the growth of all five test organisms. The reactions and sources of the active moulds may be seen in Table I.

It is interesting that all the active moulds are penicillia, and that Group I was found only as a contaminant of culture media in the laboratory, while Group II was found mainly on fruit.

The other moulds tested and found to be inactive were aspergilli, penicillia, pink moulds and mucor from household produce and culture media.

Besides being tested after six days' incubation, some of the moulds were also tested after four and twelve days' incubation. The results showed that all the active moulds tested produced the active substance in four days, but in some cases the substance had disappeared again in twelve days. The longer incubation period did not reveal activity in any moulds previously shown to be inactive. From these results it seems desirable to test cultures of moulds for activity four to six days after inoculation.

Investigation of the Antibacterial Substances.

It thus appears that the ability to produce antibacterial substances is fairly common among the penicillia ordinarily found as contaminants. The moulds of Group II are particularly interesting, as they show activity against Gram-negative as well as Gram-positive organisms—a characteristic so far described only for an aspergillus (Glister,[2] and White and Hill[3]) and for *Penicillium puberulum* and *Penicillium cyclopium* (Oxford[2]). The activity of these penicillia is due to penicillic acid. Attempts to detect penicillic acid in cultures of Mould 9 (see Table I) were unsuccessful, so that the activity of this mould appears to be due to some antibacterial substance not previously described for a penicillium. Work on the isolation of this substance is proceeding; an activity of 1/100,000 against *Bacterium typhosum* has been obtained with a partially purified product.

The activity of the moulds of Group I may be due to penicillin or to citrinin (Raistrick and Smith[3]), both of which are produced by penicillia. Mould 1 was investigated as representative of Group I, and no citrinin was detected; but the general properties of the active substance suggest that it is penicillin.

Summary.

Out of 39 moulds tested, 16 were found to possess antibacterial activity. The active moulds could be divided into two groups according to their activity against *Bacterium typhosum*.

It is suggested that in Group II an antibacterial substance, hitherto undescribed for a penicillium, is responsible for the activity against *Bacterium typhosum*.

The activity of the moulds of Group I is probably due to penicillin.

References.

[1] R. J. Dubos and R. D. Hotchkiss: "Production of Bactericidal Substances by Aerobic Sporulating Bacilli", *The Journal of Experimental Medicine*, Volume LXXIII, 1941, page 629.

[2] R. D. Hotchkiss: "Chemical Nature of Gramicidin and Tyrocidine", *The Journal of Biological Chemistry*, Volume CXLI, 1941, page 171.

TABLE I.

Moulds showing Antibacterial Activity after Six Days' Incubation at 20° C.

Mould.				Test Microorganism.				
Number.	Type.	Source.	Group.	*Staphylococcus aureus.*	*Streptococcus viridans.*	*Corynebacterium diphtheriæ.*	*Bacterium coli.*	*Bacterium typhosum.*
1	Penicillium.	Broth contaminant.	1	+	+	+	−	−
3	Penicillium.	?	2	±	±	±	±	±
8	Penicillium.	Apple.	2	+	+	+	+	+
9	Penicillium.	Contaminant from Chemistry Department.	2	+	+	+	+	+
20	Grey green penicillium.	Plate contaminant.	1	±	±	±	−	−
21	Olive green penicillium.	Plate contaminant.	1	±	±	±	−	−
22	Penicillium.	Broth contaminant.	1	+	+	±	−	−
23	Penicillium.	Culture contaminant.	1	+	+	±	−	−
24	Penicillium.	Culture contaminant.	1	+	+	±	−	−
25	Penicillium.	Culture contaminant.	1	±	±	±	−	−
26	Penicillium.	Broth contaminant.	1	+	+	+	−	−
28	Penicillium.	Broth contaminant.	1	+	+	+	−	−
29	Penicillium.	Broth contaminant.	1	+	+	±	−	−
33 (green)	Penicillium.	Apple.	2	+	+	+	+	+
46	Penicillium.	Pear.	2	+	±	±	±	+
47	Penicillium.	Pear.	2	+	+	+	+	+
51	Penicillium.	Quince.	2	+	+	+	+	+

(9) W. E. Herrell and D. Heilman: "Experimental and Clinical Studies on Gramicidin", *The Journal of Clinical Investigation*, Volume XX, 1941, page 583.
(10) E. B. Schoenbach, J. F. Enders and J. H. Mueller: "Apparent Effect of Tyrothricin on Streptococcus Hæmolyticus in the Rhinopharynx of Carriers", *Science*, Volume XCIV, 1941, page 217.
(11) R. B. Little, R. J. Dubos and R. D. Hotchkiss: "Gramicidin, Novoxil and Acriflavine for the Treatment of the Chronic Form of Streptococcic Mastitis", *The Journal of the American Veterinary Medical Association*, Volume XCVIII, 1941, page 189.
(12) R. Schoental: "Nature of Antibacterial Agents Present in Pseudomonas Pyocyanea Cultures", *The British Journal of Experimental Pathology*, Volume XXII, 1941, page 137.
(13) S. A. Waksman and H. B. Woodruff: "Actinomyces Antibioticus nov. sp., a New Antagonist against Micro-organisms", *The Journal of Bacteriology*, Volume XLI, 1941, page 32.
(14) S. A. Waksman and H. B. Woodruff: "Actinomyces Antibioticus, New Soil Organism Antagonistic to Pathogenic and Non-pathogenic Bacteria", *The Journal of Bacteriology*, Volume XLII, 1941, page 231.
(15) S. A. Waksman and M. Tishler: "Chemical Nature of Actinomycin, Antimicrobial Substance Produced by Actinomyces Antibioticus", *The Journal of Biological Chemistry*, Volume CXLII, 1942, page 519.
(16) S. A. Waksman, H. B. Woodruff and E. F. Horning: "The Distribution of Antagonistic Properties Among Actinomycetes", *The Journal of Bacteriology*, Volume XLII, 1941, page 816.
(17) M. Welsch: "Incidence of Bacteriolytic Properties Among Actinomycetes", *The Journal of Bacteriology*, Volume XLIII, 1942, page 10.
(18) A. D. Gardner and E. Chain: "Proactinomycin: A 'Bacteriostatic' Produced by a Species of Proactinomyces", *The British Journal of Experimental Pathology*, Volume XXIII, 1942, page 123.
(19) A. Fleming: "On the Antibacterial Action of Cultures of a Penicillium with Special Reference to their Use in the Isolation of B. Influenzæ", *The British Journal of Experimental Pathology*, Volume X, 1929, page 226.
(20) E. Chain, H. W. Florey, A. D. Gardner, N. G. Heatley, M. A. Jennings, J. Orr-Ewing and A. G. Sanders: "Penicillin as a Chemo-therapeutic Agent", *The Lancet*, Volume CCXXXIX, 1940, page 226.
(21) E. P. Abraham, E. Chain, C. M. Fletcher, H. W. Florey, A. D. Gardner, N. G. Heatley and M. A. Jennings: "Further Observations on Penicillin", *The Lancet*, Volume CCXLI, 1941, page 177.
(22) E. P. Abraham and E. Chain: "Purification and Some Physical and Chemical Properties of Penicillin", *The British Journal of Experimental Pathology*, Volume XXIII, 1942, page 103.
(23) H. W. Florey and M. A. Jennings: "Some Biological Properties of Highly Purified Penicillin", *The British Journal of Experimental Pathology*, Volume XXIII, 1942, page 120.
(24) J. D. Dutcher: "The Chemical Nature of Gliotoxin, a Microbial Compound Produced by the Fungus Gliocladium Fimbriatum", *The Journal of Bacteriology*, Volume XLII, 1941, page 815.
(25) E. C. White and J. H. Hill: "Antibacterial Filtrates from a Strain of Aspergillus Flavus", *The Journal of Bacteriology*, Volume XLIII, 1942, page 12.
(26) G. A. Glister: "A New Antibacterial Agent Produced by a Mould", *Nature*, Volume CXLVIII, 1941, page 470.
(27) H. Raistrick and G. Smith: "Anti-bacterial Substances from Moulds. Part I. Citrinin, a Metabolic Product of Penicillium Citrinum Thom", *Chemistry and Industry*, Volume LX, 1941, page 828.
(28) A. E. Oxford, H. Raistrick and G. Smith: "Anti-bacterial Substances from Moulds. Part II. Penicillic Acid, a Metabolic Product of Penicillium Puberulum Bainier and Penicillium Cyclopium Westling", *Chemistry and Industry*, Volume LXI, 1942, page 22.
(29) A. E. Oxford: "Anti-bacterial Substances from Moulds. Part III. Some Observations on the Bacteriostatic Powers of the Mould Products Citrinin and Penicillic Acid", *Chemistry and Industry*, Volume LXI, 1942, page 48.

A RAPID METHOD FOR CROSS-MATCHING OF THE BLOOD OF DONOR AND RECIPIENT.

By C. B. HUDSON,
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A DIFFICULTY encountered in performing cross-matching tests between donor and recipient before emergency blood transfusions is that, if a centrifuge is not available, serum or plasma cannot be obtained from the recipient without considerable delay. The object of this paper is to describe a rapid method of cross-matching in which hæmolysed blood is used instead of serum or plasma.

Method.

The recipient's hæmolysed blood is prepared as follows:

A small drop of anti-coagulant solution (3·8% sodium citrate solution is satisfactory) is placed in the bottom of a tube measuring three inches by 0·5 inch, and the water is evaporated in an oven or over a flame. The anti-coagulant does not then act as a diluent, and the tube can be kept ready for use. Two drops of blood from the recipient are drawn up into a pipette and placed accurately in the bottom of the tube, which is shaken to dissolve the anti-coagulant. The tube is then held almost horizontally and rotated in the fingers so that the blood covers the lowest quarter or half-inch of the tube, thus providing a large surface for freezing. Ethyl chloride is sprayed on the outside of the tube over the area covered by blood, the tube being rotated and the ethyl chloride evaporated by gentle blowing. The spraying is continued until a thick white frost forms. This frost is wiped off quickly and the spraying process is repeated to ensure complete freezing. The blood is then thawed by wiping off the frost, gripping the end of the tube tightly in the palm of the hand and rotating it. After having been thawed the blood is examined over a light or in bright daylight; if a dark cloud is present hæmolysis is not complete, and the freezing process must be repeated.

A weak cell suspension in 3·8% sodium citrate solution is prepared from the donor's blood. This should contain about 2% of red cells, as is ordinarily used for blood grouping.

The cross-matching is done as follows. One drop of the recipient's hæmolysed blood is placed on a clean glass slide and to it is added one drop of the donor's red cell suspension. Opal glass or porcelain tiles should not be used. The mixture is stirred with a wood applicator or match and the slide is rocked at intervals, and after ten minutes it is examined over a light or in bright daylight for the presence or absence of agglutination. Reading is facilitated if a thin film is made, either by dropping a cover-slip on the mixture or by spreading the mixture out with a wood applicator so that the fluid covers the middle third of the slide.

Investigation of the Reliability of the Method.

The reliability of the method was tested by carrying out cross-matching tests with the blood of 400 subjects. The distribution of the different blood groups was as follows: Group AB, 13 (3·25%); Group A, 150 (37·5%); Group B, 42 (10·5%), Group O, 195 (48·75%). Blood from each person was mixed with a solution containing 3% sodium oxalate and 3·72% potassium oxalate in the proportion of 50 parts of blood to one part of oxalate solution. Hæmolysed blood was prepared from the oxalated blood by freezing with ethyl chloride, and plasma was obtained by allowing the cells to form a sediment. The hæmolysed blood and plasma of each subject were cross-matched with compatible and incompatible red cell suspensions, except in the case of blood of Group AB; each specimen of this group was tested against suspensions of any two groups. A number of different red cell suspensions of Group A and Group AB were used in an endeavour to include subgroups.

In all cases the films were examined with the naked eye. Although agglutination was more obvious in the mixture of plasma and incompatible cell suspension, there was no difficulty in interpreting the reaction in the great majority of mixtures of hæmolysed blood and red cell suspension. In ten instances, however, in which the agglutination was fine both with the hæmolysed blood and with the plasma, it was a little more difficult to detect the clumping in the case of the hæmolysed blood. There were no discrepancies between the reactions with hæmolysed blood and the plasma control.

Discussion.

Even though the greatest care is taken in blood grouping, errors undoubtedly do occur, and it is generally agreed that cross-matching of the blood of donor and recipient is desirable before a transfusion is given. It is essential when a subject receives repeated transfusions. In certain circumstances, however, the recipient's serum or plasma cannot be obtained quickly because a centrifuge is not available. This difficulty can be overcome by the technique described above, the recipient's hæmolysed blood being

used instead of serum or plasma. The method of hæmolysing the blood by freezing it with ethyl chloride is practicable and the results appear to be reliable. It may be argued that there is a possibility that the red cell ghosts in the hæmolysed blood will be agglutinated by the agglutinins in the red cell suspension of a high titre Group O donor. This phenomenon, however, was not observed among the tests applied to the 400 subjects.

In Nicholson's "Laboratory Medicine"[1] a method of cross-matching is described, using blood hæmolysed by being mixed with chloroform. Ether and chloroform are rapid hæmolysing agents, and ether can be easily eliminated from the hæmolysed blood. It was found, however, in the present investigation that blood hæmolysed by these agents was unsuitable, because the hæmolysed blood had a granular appearance which was accentuated after the red cell suspension was added. This granularity was apt to be confused with true agglutination.

Summary.

1. A method is described for the rapid cross-matching of the blood of donor and recipient in circumstances in which the recipient's serum or plasma cannot be obtained quickly. Hæmolysed blood is used instead of serum or plasma. The blood is hæmolysed by being frozen with ethyl chloride and subsequently thawed.
2. Specimens of hæmolysed blood from 400 subjects were cross-matched against compatible and incompatible red cell suspensions and the method was found to be reliable.

Acknowledgements.

The author wishes to express his appreciation of the facilities extended to him by the New South Wales Red Cross Blood Transfusion Service in carrying out this work, and to the Director-General of Medical Services (Royal Australian Air Force), Air Vice-Marshal T. E. V. Hurley, C.M.G., V.D., for permission to publish the results.

Reference.

[1] D. Nicholson: "Laboratory Medicine", 1930, page 85.

Reports of Cases.

A CASE OF CAVERNOUS SINUS THROMBOSIS WITH RECOVERY.

By P. H. Doyle,

Kyogle, New South Wales.

Clinical Record.

The patient, a healthy woman, aged thirty years, developed a pimple on the left side of her face about one inch in front of her ear. She picked this on November 29, 1942. On December 1 she had an "attack of the shivers". On December 4 her face was swollen and she felt cold all day. I saw her on December 5 for the first time and admitted her to hospital. On her admission, an œdematous area was present extending from her left ear across her forehead; her left upper eyelid was swollen and reddened, and the left eye was slightly more prominent than the right. Her temperature at 7 p.m. was 102° F. and her pulse rate was 104 per minute. Continuous foments to the face were ordered and "Proseptasine" tablets were given, one gramme every four hours. On December 6 sulphadiazine tablets replaced the "Proseptasine"; one gramme was given at 12 noon, two grammes were given at 2 p.m., one gramme was given at 4 p.m., and then one gramme was given every four hours. At this time the patient complained of stiffness of the back of the neck; ichthyol in glycerine and foments were applied continually. On December 7 the left eyelid was swollen and dusky red in colour; the eye, which was proptosed, was examined with difficulty. On December 8 the swelling was more pronounced. On December 9 a change was made in treatment, and sulphathiazole replaced sulphadiazine, the dosage employed being one gramme every four hours as before. On December 10 a small incision was made in the left eyelid and a small amount of pus was obtained; this yielded *Staphylococcus aureus* on culture. At this stage the right upper eyelid was also beginning to swell. The patient's maximum temperature at this stage was 104° F. and her pulse rate was 120 per minute.

On December 11 she was seen in consultation by Dr. T. Boyd Law. On that day pronounced ptosis of the left upper eyelid and some proptosis of the eye were present, and the upper eyelid was a dusky red colour. The eye itself was examined with difficulty, but by forcibly holding the lids apart we were able to determine that she was able to count fingers with this eye. The pupil was moderate in size and reacted to light, and although there was pronounced chemosis and considerable swelling and induration of the orbital tissue were present, she was able to move the eye in any direction, although, of course, these movements were restricted. Examination of the fundus revealed considerable engorgement of the retinal veins and the outlines of the disk were ill-defined. We diagnosed cavernous sinus thrombosis and gave the relatives a grave prognosis. At this time the original pimple had disappeared.

As the patient was nauseated with the oral administration of the sulphonamides, sulphapyridine soluble was given; one ampoule was injected intramuscularly at 12 noon and one ampoule at 4 p.m. At 8 p.m. the administration of sulphapyridine, three tablets every four hours, was begun. This treatment was maintained on December 12, when her maximum temperature was 100° F. On December 13 the dosage of sulphapyridine was reduced to two tablets every four hours. At this stage the swelling of the right eyelid began to decrease. On December 14 her temperature rose to 101° F. continuously and the dosage of sulphapyridine was again increased to three tablets every four hours. At this stage a blood count revealed that the erythrocytes numbered 3,500,000 per cubic millimetre, the hæmoglobin value was 58% and the leucocytes numbered 7,200 per cubic millimetre. The dosage of sulphapyridine was maintained until December 16, when a further blood count revealed that the erythrocytes numbered 2,750,000 and the leucocytes 11,000 per cubic millimetre, the hæmoglobin value being 52%. A transfusion of three-quarters of a pint of blood was given. There was an immediate reactionary rise of temperature to 102° F., but on December 17 and 18 her condition rapidly improved and her temperature subsided almost to normal. The swelling of her left eye had also subsided, and she was able to see without the lid being lifted. The sulphapyridine therapy was continued, one tablet being given every four hours until December 24, when it was suspended. Her progress has since been uneventful, and on January 4 her eye was practically normal apart from some discoloration and ptosis of her left eyelid. The total dosage of the sulphonamides was as follows: from December 5 until December 24 she received orally 142 tablets (71 grammes) and intramuscularly eight grammes.

Discussion.

In recent literature several cases of cavernous sinus thrombosis with recovery are reported. It would appear that prior to the advent of the sulphonamides the condition was uniformly fatal.

Seydell (*Archives of Otolaryngology*, September, 1939) reports the case of a girl, aged nineteen years, who recovered after receiving 144·5 grammes of sulphanilamide.

Morrison and Schindler (*Archives of Otolaryngology*, June, 1940) report the case of a boy, aged five years, who recovered after receiving 63 grammes of sulphapyridine and five blood transfusions.

Wolfe and Wolfe (*Archives of Otolaryngology*, January, 1941) report the case of a boy, aged seventeen years, who recovered after receiving 151·2 grammes of sulphathiazole in fourteen days and a further 56·7 grammes in the next eighteen days.

The second and third of these reported cases were accompanied by photographs which leave no possible doubt as to the diagnosis.

I regret that no photograph accompanies this article, and its absence may be interpreted as an expression of my own feeling about the outcome of the case. Nevertheless, the appearances were absolutely typical and the case fulfils the diagnostic criteria set down by Eagleton in his book on the subject (1926), namely: (i) a known site of infection, (ii) evidence of infection of the blood stream, (iii) early signs of venous obstruction of the retina, conjunctiva or eyelids, (iv) paresis of the third, fourth and sixth nerves resulting from inflammatory œdema, (v) formation of an abscess in the neighbouring soft tissues, (vi) evidence of meningeal irritation.

Acknowledgement.

I wish to thank Dr. T. Boyd Law, of Lismore, for his help in compiling data of other cases *et cetera* and for his expert advice and unfailing help in handling a worrying case.

Reviews.

THE HÆMORRHAGIC DISEASES AND HÆMOSTASIS.

DR. ARMAND J. QUICK, who is Associate Professor of Pharmacology in the Marquette School of Medicine, delivered the Beaumont lectures in 1941 on hæmorrhagic diseases, and his treatment of the subject was so exceptionally good that an expansion of the lectures into book form was demanded. This suggestion has now been acted upon and the book is available—"The Hemorrhagic Diseases and the Physiology of Hemostasis".[1] It is assuredly rare to find the publisher's announcement on a dust-cover erring on the side of modesty, but this is actually the case with this volume; the prospective reader is informed that it is not a treatise on blood coagulation and yet perusal will incline him to regard it as the best exposition of the subject which has been brought to his notice. Further it is stated in large print that a bleeding tendency is the major problem; true, but there is much more than that. Dr. Quick is well known for his original contributions to the physiology and pathology of blood coagulation and also for his very clarifying suggestions. The whole subject of coagulation had got into a tangle with the proponents of each hypothesis remaining blind to rival suggestions and adverse arguments. Coagulation was an affair of colloid chemistry or had to do with electric charges or was allied to precipitin reactions. The classic scheme in which thrombin was supposed to be formed by the interaction of prothrombin and thromboplastin in the presence of calcium ions always prompted the pertinent question just what the calcium ions were doing. Quick proved conclusively by physico-chemical experiments and reasoning that calcium is present in combination with prothrombin, so that the equation may be given:

prothrombin Ca + thromboplastin = thrombin.

This may not appear to be a major advance, but it has cleared up a lot of difficulties. More arresting were Quick's discoveries with the bleeding of the new-born and with icterus patients, for in these cases the inherent factor was shown to be hypoprothrombinæmia, and further that vitamin *K* is an accessory agent essential for the formation of prothrombin. The dramatic response of patients with hypoprothrombinæmia to vitamin *K* therapy, allowing surgical operations to be conducted without the dread of profuse and sustained bleeding, placed Quick in the forefront of blood investigators.

The author devotes seven chapters to the theory of coagulation and this is presented in masterly manner. Then come the chapters on purpura, pseudohæmophilia, telangiectasia, afibrinogenæmia, hæmophilia and the hæmorrhagic diathesis of avitaminosis *K*, of obstructive jaundice, biliary fistula and liver damage. The medical reader will probably turn first to the chapter on hæmophilia and will not be disappointed, as the handling is restrained and wisely critical. The author is certain that the solution of the problem of hæmophilia will be found when we discover the factor responsible for the undue stability of the platelets; whether this factor is inherent in the platelets or is an agent present in the plasma future research will disclose. In dealing with the treatment of hæmophilia, the author is not optimistic and utters a warning against uncritical acceptance of the claims made for new procedures. Blood transfusion he regards as the best means of controlling hæmorrhage so long as our knowledge remains as it is. As might be expected from the author's successful investigations, the hæmorrhagic diathesis in avitaminosis *K* and pathological conditions of the liver is treated with considerable detail and makes most interesting reading. An admirable appendix describes clearly and succinctly clinical methods for estimating coagulation time, skin bleeding time, clot retraction, the counting of platelets, the assay of prothrombin, thromboplastin, thrombin and heparin; this appendix alone would make the book welcome to practitioners and clinical biochemists. One very minor criticism may be offered. The author accepts the hypothesis of Wright that the platelets are detached portions of the megakaryocytes of bone marrow and spleen. If this is correct, then the platelets ought to be observable in circulating blood, but to the best of our knowledge and belief the challenge to demonstrate this put forward by the late Professor Buckmaster has never been taken up and text-books continue to reproduce uncritically the drawing of Osler, which was a very 'prentice effort and probably arose from faulty technique. It is a pity that so excellent a book should be printed on heavy, evil-smelling paper, but in these times we should be thankful that it is printed at all.

[1] "The Hemorrhagic Diseases and the Physiology of Hemostasis", by Armand J. Quick, Ph.D., M.D.; First Edition; 1942. Springfield: Charles C. Thomas. London: Baillière, Tindall and Cox. 9¼" × 6¼", pp. 359, with 24 illustrations and 9 tables. Price: $5.00, post paid.

VITAMINS AND HEALTH.

DURING the seventeen years which have elapsed since Professor and Mrs. Plimmer produced the first edition of their little book on food and vitamins, great advances have been made in our knowledge of nutrition. These advances have been made largely, although not entirely, as a result of investigations of the microconstituents of food, of vitamins and the compounds of elements present in only small amount. Professor Plimmer and his associates have themselves been active in this field.

During this period the number of vitamins recognized has increased more than fourfold. In spite of the increasing complexity of the data to be considered the authors have very successfully maintained in the ninth edition of their book[1] the simplicity of presentation which characterized the first. They have been able to adapt with only minor modification the useful diagrammatic representation of their concept of the "square meal" to the increasing multiplicity of factors recognized as necessary in a complete diet.

After a preliminary review of the chief requirements of a normal diet, considered in the classical manner as a source of energy and of building material, the authors consider the vitamins of most importance to man. As the existence of vitamins has usually been discovered in the study of diseases associated with food deficiencies, the effects of various hypovitaminoses and avitaminoses are briefly discussed in a non-technical manner. The main sources of the principal vitamins in common foodstuffs are indicated.

The last part of the book deals with common errors of diet, and with modifications required in different conditions of growth, age, activity and climate. Examples of economical family diets and menus are set out in the appendix. These, of course, refer to conditions prevailing in Britain, and in some particulars require modification to adjust them to changes in this country imposed by rationing. The appendix also contains tables of the calcium, phosphorus and iron content of a large number of foodstuffs.

Although the book is quite small, it will enable the intelligent lay reader to select an adequate diet with the help of the information which it gives him, and to understand the reasons for his choice. The medical reader will find the book useful for the collected data on the vitamin and mineral content of many foodstuffs.

[1] "Food, Health, Vitamins", by R. H. A. Plimmer, D.Sc. (London), and Violet G. Plimmer; Ninth Edition; 1942. London: Longmans, Green and Company Limited. 7½" × 5", pp. 200, with coloured frontispiece and two diagrams. Price: 7s. 6d.

A YEAR BOOK IN EYE, EAR, NOSE AND THROAT CONDITIONS.

THE YEAR BOOK OF THE EYE, EAR, NOSE AND THROAT for 1942 is an interesting publication.[2] It is divided into two parts. The first, edited by Louis Bothman, is concerned with the eye, and the second, edited by S. J. Crowe, is devoted to the ear, nose and throat. The section on the eye opens with an article on avitaminosis by Bothman. He discusses vitamins in relation to ophthalmic conditions. He finds that vitamins *A* and *C* and the vitamin *B* complex are of therapeutic value, but can give no definite opinion in regard to vitamins *D* and *K*. The articles from ophthalmological literature are arranged according to the part of the eye with which they deal. Among the more important subjects discussed are *keratoconjunctivitis sicca*, uveitis, detachment of the retina, sympathetic ophthalmia, optic neuritis and optic atrophy. Glaucoma has a section to itself. A separate section is devoted to therapy of eye conditions and one of the most useful sections, particularly from the point of view of the general practitioner, is a section headed "General and Miscellaneous". The section on ear, nose and throat is full of important material. Frequent reference is made to war in relation to both ear and throat conditions. A good deal of space is given to the larynx, but the thyreoid receives only passing mention.

This book is essentially one for the specialist, but there is a great deal in it which the general practitioner should read; if he tries to do so he will find the reading easy.

[2] "The 1942 Year Book of the Eye, Ear, Nose and Throat": the Eye, by L. Bothman, M.D., the Ear, Nose and Throat, by S. J. Crowe, M.D., with the collaboration of E. M. Hagens, M.D. Chicago: The Year Book Publishers. 7" × 4¾", pp. 640. Price: $3.00.

The Medical Journal of Australia

SATURDAY, APRIL 24, 1943.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

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THE MEETING OF THE FEDERAL COUNCIL.

THE meeting of the Federal Council of the British Medical Association in Australia reported in the present issue was particularly notable by reason of the evidence that the Branches of the Association had found some common ground in their ideas on the future of medical practice. In view of this fact no apology need be offered for the length of the report of the meeting. An attempt has been made by giving an outline of the discussions to show how the different conclusions were reached. The report of such a meeting is chiefly the domestic concern of the Branches; but the meeting had a wider significance, because so many of the subjects on the agenda paper dealt with the medical profession in its relations with the public. For example, it is just as important for the public to know in what way the profession believes it can give the best service in the future as it is for the medical profession to know what the ideas of the public on that important question are. At the recent meeting in Melbourne there was a full attendance of Branch representatives, a matter of no little difficulty at present when travelling is restricted and arrangements are likely to be upset at short notice and when plans for the conduct of an over-full practice for even a short absence are not easily made. The agenda paper was by far the most complicated that has faced any meeting of the Federal Council in recent years; we should be failing in our duty if reference were not made to the prevision shown by the General Secretary in his generous supply of advance information to members and to the skilful and untiring way in which, though but recently recovered from illness, he presented the closely interwoven items of the meeting.

Perhaps the first point calling for mention has to do with the powers of the Federal Council. As will be seen from the report, the Queensland Branch wrote suggesting that steps should be taken by the Branches to transfer to the Federal Council powers to negotiate with the Federal Government. The question naturally arose as to whether or not the Federal Council had power to bind the Branches. Obviously at the present time there must be only one voice to speak on behalf of the medical profession in any discussions with the Government; this is recognized by all sections and organizations in the profession. The power of the Federal Council to bind the Branches is a different matter. Ever since the Federal Council replaced the Federal Committee in the organization of the Australian Branches, it has been commonly held that the Federal Council was not the purely advisory body that the Federal Committee had been before it, but that it had power to initiate legislation on behalf of the Branches. Most persons reading the By-Laws and Articles of Association would come to the conclusion that the Federal Council had power to bind the Branches. As there appeared to be some doubt about the matter, the Federal Council wisely decided to settle the issue by taking legal advice. Should the Council not have the requisite powers, it will be certain to take steps to acquire them. In any case, whether the Council already has the power to bind the Branches or will acquire them, the important point, never to be forgotten in moments of local disappointment, is that by sending representatives to the Federal Council the Branches tacitly indicate their willingness to be bound.

The chief subject discussed at the recent meeting was medical planning. The previous meetings of the Federal Council had been concerned with different aspects of this subject. Readers will remember that the Federal Council adopted as its ideal a scheme for a medical service based on what has been known as the Bell-Simmons report. This scheme was designed to give a service to certain sections of the community with payment on a *per capita* basis. At its meeting last September the Council also considered the scheme for a service on a salaried basis drawn up by the National Health and Medical Research Council, as well as one drawn up by a subcommittee of the Victorian Branch Council. Incidentally the Victorian Council has since disowned the latter scheme. The National Health and Medical Research Council scheme, though based on a salaried service, did not eliminate private practice. The Federal Council at its September meeting also asked the Branches to consider the three schemes named and to send their views for consideration at the recent meeting. There has been an extraordinary unanimity about the opinions expressed. As will be seen from the report of the meeting, the representatives of the several Branches, as well as the representatives of the Royal Australasian College of Physicians and the Royal Australasian College of Surgeons, believe that the best medical service for the people of Australia is one based on the present type of practice, provided certain additions and improvements are made. The desiderata are set out under nine headings in the Federal Council's resolution. With most of these nine headings no one could justly quarrel; in regard to one or two some differences of opinion might exist. No one will question the safeguarding of the standards of nutrition or the provision of adequate housing. Every one will agree that research and investigation are indispensable to the medical well-being of any community; and clearly diagnostic facilities and ready access to the opinions of expert consultants are essential if every member of the community is to have at his disposal the best that medical science has to offer. Moreover, it is patent that in regard to all these matters much remains to be done in this country. In some places the deficiency is serious and action is urgently needed. At the Federal

Council meeting there was some difference of opinion about "diagnostic laboratory centres" and their wider establishment in the different States. What needs to be done in regard to all the nine directions named as suitable avenues for improvement, is that the medical profession shall ask itself, through the Branch Councils in the several States, whether it lies within the power of the profession to initiate any of the desired improvements. For example, if by certain concerted planning and cooperation laboratory diagnosis can be extended in country areas without the intervention of any government, the practising profession owes it to country patients and to its own members to see that something is done. Admittedly extensions of this kind cannot be brought about while the country is at war; but in regard to that statement it must be remembered that the need for extended diagnostic facilities has not suddenly appeared since the outbreak of war. The whole point is that medicine must be ready to do these things as soon as the war is over—and not only must it be ready; it must also show that it is ready. Improvements will not be effected in a day, merely by saying that they shall be done; in fact to hasten slowly is necessary, provided some hastening is done and the brake of overcarefulness does not make it imperceptible. In regard to group practice this is particularly true. Group practice in one form or another has been mentioned in nearly every recent discussion and plan dealing with the future of medicine. The report of the committee of the Federal Council appointed to deal with it is interesting and covers most of the ground, but the subject is large and in relation to Australian conditions it calls for a separate discussion on another occasion. What we would emphasize at present is the wording of the Federal Council's resolution: "group practice initiated by members of the profession themselves". The position may be summed up as follows: what the medical profession can do of itself it should do; what it can do now it should do without delay; what it cannot do until the end of the war it should be ready to do as soon as that day arrives. That this attitude is right is clear from the fact that the Federal Council has now no scheme for a medical service: it has a "policy" and a series of "principles" on which a medical service should be based. This is made quite clear in the report of the meeting. Neither policy nor principles are worth anything unless some effort is made to put them into effect. This gives rise to another consideration. At the meeting of the Federal Council last September it was decided that the Council should arrange a conference with the Australian Council of Trade Unions, the Federal Consultative Committee of the Friendly Societies of Australia, and the Federal Council of the Returned Sailors, Soldiers and Airmen's Imperial League of Australia to discuss a general medical service for Australia, and that each Branch should arrange a conference with similar bodies in their respective States. Another motion was carried stating that the conferences should be arranged after the Federal Council had decided what schemes for a general medical service should be submitted. These resolutions still hold good and the question may now be asked whether the Federal Council's declaration of "policy" and "principles" has not paved the way for the conferences named. A greater degree of unanimity in the medical profession has been achieved, we are told, than was expected. Words should be followed by action. It is true that the Federal Council has for the time being at least ignored the economic side, that is to say, how those who cannot at present pay for their medical service will be able to pay or have payment made for them. But this does not mean that there is nothing to do. If nothing else, the profession must give an earnest of its good intentions; otherwise it will not matter a great deal whether unanimity or lack of cohesion rules the day.

Before this account of the last meeting of the Federal Council is closed reference must be made to the richly deserved award of the gold medal of the British Medical Association in Australia to Dr. C. H. Mollison who has given such long and faithful service to the Victorian Branch. Dr. Mollison's influence has extended far beyond the boundaries of his own State. He may rest assured that in addition to the tangible token of appreciation which the members of the British Medical Association propose to give him, he will continue to enjoy the warm regard and the high esteem of large numbers of his colleagues, many of whom are scattered at present to the far corners of the earth.

Current Comment.

TOXÆMIA OF PREGNANCY.

TOXÆMIA of pregnancy has often been called the disease of theories, and quite wrongly so. A theory is, according to the Oxford Dictionary, "a conception of the causal connexion of facts", but there is hardly any other field in which so much speculation and even loose thinking has been based on so few facts. Two recent contributions, unfortunately, prove no exception to the rule. K. Blond has already given us a "new theory" of the origin of hæmorrhoids. He has suggested that they are caused by entry of portal blood into the systemic circulation through the hæmorrhoidal plexus. He now suggests[1] that a kind of reversal of this process is the one and only cause of all the various forms of toxæmia of pregnancy. According to him, the blood from the uterus which normally returns via the uterine, hypogastric and iliac veins into the inferior *vena cava*, is diverted, as soon as a placental circulation is established, via the pudendal plexus into the portal circulation. Large amounts of toxic products are in his opinion passed from the fœtal into the maternal circulation. In order to be detoxicated in the "great chemical factory" of the liver before entering the general circulation, the whole return flow from the uterus is diverted into the portal circulation. If, for some reason or other, this diversion should not function perfectly, the toxic products would enter the general circulation without being detoxicated, and this is, according to the author, the key to the problem that all previous work has failed to solve. Blond elaborates then at some length how all the various manifestations of toxæmia of pregnancy are produced, but he never gets much further than stating that this or that organ is "intoxicated" by poisonous waste products. Instead of following him through this maze it might be better to see on what facts his speculations are based. There is only one objective sign, the bluing of the genital organs; this, in his opinion, occurs too early in pregnancy to be due to congestion and it is for him evidence of widening of the pudendal plexus for the purpose of facilitating the diversion of the blood flow. All the other support for his ideas is derived from interpretation of symptoms of which pregnant women complain, or from quotations from the literature. The question may be asked, however, whether there is any idea which could

[1] *The Journal of Obstetrics and Gynæcology of the British Empire*, October, 1942.

not be supported by a special selection of quotations. It is thus perhaps not astounding that just the opposite point of view can be found in Dieckman's book on toxæmias of pregnancy. Dieckman states that it has been suggested that the entry of portal blood into the systemic circulation through such anastomoses might be a contributing factor in toxæmia. One glance, however, into the pelvis during an operation on a pregnant uterus should convince everyone that the uterine and hypogastric veins are filled to capacity and not more or less empty, as one would expect if one were to follow Blond's suggestions.

There may be some excuse in the fact that the author is not an obstetrician and developed his speculation more or less as an off-shoot of his work on hæmorrhoids, but this excuse does not hold for the title of F. F. Snyder's[1] paper "The Experimental Production of Toxæmia of Pregnancy". Snyder actually reports a very good piece of work, but in spite of his interesting results there seems to be no justification for the title of his paper. He gave pregnant rabbits near term a single injection of "Antuitrin-S", with the result that, dependent on the amount given, parturition was either hastened or delayed. By suitable dosage it was possible to arrange that part of the litter was born alive prematurely, while the rest of it survived in the uterus and eventually attained post-mature stages of development. The placenta in all such cases showed what the author termed "utero-placental apoplexy", what American writers usually call "*abruptio placentæ*", and what in British countries is usually spoken of as accidental hæmorrhage. The actual mechanism of his peculiar results is that the "Antuitrin" injection induces maturation of ovarian follicles, ovulation, and *corpus luteum* formation. Labour occurs either at the beginning or at the end of the sixteen-day life span of the induced *corpora lutea*, but not during their bloom. Valuable and interesting as Snyder's contribution is, it cannot be said that the problem of the experimental production of toxæmia of pregnancy in animals is now solved. Even the finding of liver necrosis similar to that of eclampsia in one (but only in one) of the animals is not convincing evidence that the aim has been realized. There remain, however, the highly interesting actual results of his experiments and the justifiable conclusions, that endocrine disturbances are an important factor in the causation of the syndrome still known as toxæmia of pregnancy.

A third recent publication on this subject, the already above-mentioned book of W. J. Dieckman,[2] reveals a totally different approach to the problem. In it one finds an amazing collection of data. The results of every investigation which were held to have elucidated some anatomical, physiological, pathological or clinical facts are faithfully recorded. There is such a wealth of detail and sometimes contradictory detail that after a while the reader looks for the hand of the author to guide him through this labyrinth, and he hopes to find at least some attempt at integration of the accumulated material. But it is here that the book falls somewhat short. The author has refrained from criticizing and theorizing to a degree quite unusual in publications on this subject; a little more criticism and speculation would have been welcome in this case as it would almost certainly be based on secure ground. Nevertheless, the book remains invaluable as a compilation of our present knowledge.

Still another approach to the problem has been made by the American Committee of Maternal Welfare a few years ago, with the introduction of a standardized classification of toxæmias of pregnancy. This seemed desirable because experience had shown that understanding and thereby therapy of heart or kidney diseases had been greatly improved by the adoption of a proper classification. A paper by P. F. Williams and E. Weiss[3] is the first publication of an attempt to apply the classification to a fairly large series (318 fatal cases observed during a ten-year period). As one could expect, the authors believe that some slight alterations in the groups and subgroups would be an advantage. Space does not allow their results to be reviewed in detail, but it is of great interest to note that their work has demonstrated to them, even more forcibly than their previous experience suggested, that patients with toxæmia of pregnancy are not being studied as thoroughly as they should be. They feel that the general adoption of the classification by all maternity hospitals will do much toward the understanding of the toxæmias of pregnancy and the reduction of maternal mortality from this cause.

As there is apparently no common agreement between the hospitals in this country with regard to the classification of toxæmia, the suggestion might be made that those in charge of such hospitals should peruse this and related papers carefully with the view to reaching an understanding on the basis of this or a somewhat modified classification.

[1] *American Journal of Obstetrics and Gynecology*, December, 1942.
[2] "The Toxæmias of Pregnancy", 1941.
[3] *American Journal of Obstetrics and Gynecology*, January, 1943.

CLOSURE OF THE DUCTUS ARTERIOSUS.

THE dramatic transformation of the heart at birth with the establishment of a pulmonary circulation distinct from the systemic has for many years aroused the interest of the anatomist and physiologist, but the exact happenings have not been given the attention in research which they deserve. For example, what process is it which seals the *foramen ovale*? Is it a benign endocarditis? Then we have the sudden closure of the *ductus arteriosus*, which means that the entire output of the right ventricle is driven into the lungs. At first mechanical causes were sought for this obliteration, such as pressure exerted by the large bronchi at the onset of respiration, the bending of the aortic arch due to increased tension within, displacement of thoracic viscera arising from the increment in lung volume, diaphragmatic fibres pulling on the ductus, and so forth. In the adult the *ductus arteriosus*, as we all know, is represented by a solid ligament, but this change could not possibly be effected in a few minutes. Experiments on fœtal guinea-pigs conducted in the Vanderbilt Medical School by J. A. Kennedy have shown that the *ductus arteriosus* possesses powerful muscles in its wall which readily go into sustained contraction under appropriate stimuli, of which inflation of the lungs combined with oxidation of the blood is the most potent.[1] Gradually the duct which is thus closed by muscular contraction is permanently sealed through the replacement of the muscle by fibrous tissue. In these experiments spasm of the *ductus arteriosus* occurred from three to ten minutes after the commencement of respiration; mechanical stimuli could also produce the same result. It was noteworthy that in this early period cessation of the stimulus was followed by restored patency of the duct. This conception of a sensitive muscular layer capable of closing the lumen against both aortic and pulmonary pressure clears up many points. If in a post-mortem examination on a baby a probe can be passed through the *ductus arteriosus*, this does not mean at all that there was any patency after birth. This physiological closure might have been surmised from the fact, not mentioned by Kennedy, that in the heart of the calf obtained from the abattoirs, at the usual time of the killing of the animal, the *ductus arteriosus* is invariably open and yet no circulatory disability has been noted in the calf before slaughter. Another conclusion which Kennedy states is that anything which interrupts this physiological process of muscular contraction may lead to patency in the adult. It is suggested that vigorous respiration with air enriched with oxygen will favour the closure. In a recent research emanating from Cambridge, England,[2] the rather anomalous finding is announced that the average pulmonary circulation time is reduced when the *ductus arteriosus* closes.

[1] J. Allen Kennedy: "A New Concept of the Cause of Patency of the Ductus Arteriosus", *The American Journal of the Medical Sciences*, October, 1942, page 570.
[2] A. E. Barclay, J. Barcroft, D. H. Barron, K. J. Franklin and M. M. L. Prichard: "Pulmonary Circulation Times Before and After Functional Closure of the Ductus Arteriosus", *Journal of Physiology*, November, 1942, page 375.

Abstracts from Medical Literature.

PHYSIOLOGY.

The Plantar Reflex as a Criterion of Endurance.

Paul I. Yakovlev (*The Journal of Laboratory and Clinical Medicine*, February, 1943) recommends the use of the plantar reflex as a measure of constitutional endowment. He points out that, although an extensor type of reflex is generally taken as being an indication of a destructive lesion in the nervous system, such a view is incorrect. The reflex is normally extensor in type in infants aged up to eighteen months; an extensor type of response can also be elicited in adults during a profound sleep. It may occur in some subjects after prolonged exertion, such as a long march. The author records work done on the subject by himself with collaborators. He concludes that, although the extensor type of response may well occur in any subject after exertion and fatigue pushed to the point of severe exhaustion, a relatively small amount of exertion may cause it to occur in constitutionally inferior persons. The occurrence of Babinski's sign after an ordinary amount of exertion in a person otherwise appearing healthy is an indicator of constitutional inferiority, and may serve as a criterion of endurance. The author draws attention to the fact that during his studies it was found that (i) subjects who endured prolonged locomotion without the occurrence of Babinski's sign had begun to walk at about the normal time of infancy, (ii) those in whom a unilateral Babinski's sign developed after prolonged locomotion, had begun to walk much later, and (iii) those in whom a bilateral Babinski's sign developed after prolonged locomotion, had begun to walk much later still—at as late an age as three and a half years. This test may be of considerable use in military medicine; subjects who present this sign after exertion should not be assigned to tasks in which physical endurance is of primary importance. But the sign has not the slightest connexion with the intelligence of the subject.

Hazards in Flying.

D. Bruce Dill (*The Journal of Laboratory and Clinical Medicine*, February, 1943) states that the chief physiological hazards of flying are: (i) anoxia, (ii) aeroembolism, (iii) acceleration, (iv) cold, (v) vibration and (vi) anxiety. With regard to anoxia, he states that the organ which is most sensitive to and suffers most from oxygen lack is the brain. This hazard arises at altitudes between 10,000 and 20,000 feet, when the pilot is not using his oxygen supply. At about 37,000 feet, even when his oxygen supply is functioning perfectly, he again begins to become anoxic. The limit of consciousness, when pure oxygen is being breathed, is near 45,000 feet. The author goes on to discuss in some detail the effects of anoxia on the various bodily systems. Aeroembolism depends, not upon oxygen supply, but upon the absolute pressure. At 18,000 feet the pressure on the body is half an atmosphere, and at 40,000 feet it is one-fifth of an atmosphere. Nitrogen thus tends to be released from solution in body fluids. When the pressure is suddenly decreased, gas bubbles form. The nitrogen bubbles at first are small and cause no trouble, but they increase in size by coalescence with adjoining bubbles, by the diffusion into them of carbon dioxide and water vapour oxygen. The author suggests an attempt at prophylaxis by the elimination of some of the nitrogen before a flight is undertaken; the most effective means is the breathing of pure oxygen during exercise—at least half the nitrogen of the body may be released within half an hour. The method may be of use when missions are planned ahead of time. With regard to acceleration, the author points out that a man may faint on a hot day while standing at attention—when exposed to one "G". A man in an aircraft is often exposed to three times that force and on some occasions to five or six times that acceleration of gravity. Venous return from below the heart is likely to be stopped and the arterial supply above the heart and in particular to the brain to be handicapped. In a short time the heart is inadequately filled, only a small amount of blood is discharged with each beat, and the blood that does leave the heart tends to go down rather than up. Many questions await solution: (i) the possibility of selecting men resistant to acceleration, (ii) determination of the factors that make men more or less resistant to acceleration and (iii) the training of men in the technique of resisting acceleration. The author states that the obvious method of giving protection against the anoxia, cold and aeroembolism of extreme heights is the maintenance of a small positive pressure in the cabin of the aeroplane. Compression of the air will heat it enough to keep it comfortable. Referring to visual function of pilots, the author states that poor night vision is very seldom improved by the administration of vitamin *A*. Night vision varies greatly amongst healthy men; it it relatively constant in a given man.

The Physiology of Fatigue.

D. Bruce Dill (*The Journal of Laboratory and Clinical Medicine*, February, 1943) discusses four types of stress that are important causes of fatigue: (i) sprinting, (ii) running a marathon race, (iii) performing hard manual work for long hours, (iv) performing hard mental work for long hours. The sprinter supplies nearly all his energy from certain reserves that can be used without oxygen; when his work is done, there is a period of recovery in which extra oxygen is used, and finally the original state of the organism is restored. After a sprint, the blood sugar concentration may be 150 or 200 milligrammes *per centum*, and the lactic acid concentration may be 150 milligrammes *per centum*—fifteen times the normal resting level. The marathon runner must rely for his energy upon oxidative processes. At the end of a race lasting two and a half or three hours, his blood sugar concentration may be as low as 50 or 60 milligrammes *per centum* and his lactic acid concentration 15 or 20 milligrammes *per centum*. Although emotion may have raised the blood sugar level at first, by the time the race is over the carbohydrate reserves are depleted, the blood sugar level is low and the fuel is almost exclusively fat. The fatigue of the man performing hard manual work over long hours is more like that of the marathon runner than that of the sprinter; it is composite, made up of physical and psychological factors, and cannot easily be measured biochemically. The author refers to the falling-off in output that can be predicted from the imposition of too long hours of work; he stresses the shortsightedness of a policy that permits a working week of up to eighty hours. The fourth type of stress, affecting chiefly executives, also produces a fatigue that results in decreased output. The author believes that many of the present-day difficulties arise from the fact "that the men at the top are too busy to think". Referring to the dependence of fatigue on endurance, he considers that one aspect of the question is the native endowment. There are inherent differences in physical and mental characteristics that must be taken into account. Training for physical tasks will effect an improvement, but some trainees will improve more than others. The development of conditioned reflexes is an aid to endurance; men who have learnt to do their job the easy way, without much thought, will have their mind free for reveries. There is no adequate, simple test of physical fitness. The author discusses the importance of such tests, and describes one test that he uses. He believes that tests of physical fitness need to put the whole body under stress and call for maximum effort, not merely by a small group of skeletal muscles, but by the heart itself.

BIOLOGICAL CHEMISTRY.

Sulphur Metabolism.

L. Miller and G. Whipple (*The Journal of Experimental Medicine*, November, 1942) report on liver injury, liver protection and sulphur metabolism. Protein-depleted dogs are very susceptible to injurious agents—in particular, chloroform. Methionine given shortly before chloroform anæsthesia will give complete protection against chloroform. Methionine (or cysteine *plus* choline) given three or four hours after chloroform anæsthesia will give significant protection against the liver injury of chloroform anæsthesia. Methionine given more than four hours after chloroform anæsthesia gives no protection against liver injury. Choline alone given before chloroform gives no protection against liver injury. The protein-depleted dogs have livers which are deficient in both nitrogen and sulphur, but sulphur is depleted more than is the nitrogen. The nitrogen: sulphur ratio therefore rises. Methionine or cystine feeding promptly makes up this liver sulphur deficit. Viable liver cells are necessary for this uptake of sulphur. Livers of fœtuses *in utero* or of new-born pups tolerate a chloroform anæsthesia which will cause fatal liver injury in adults. The nitrogen and sulphur values of the fœtus or pup livers are within the high normal values for adults. Blood-forming cells are present in the fœtus or pup livers during this period. When

these blood islands are eliminated during the third or fourth week of life, the liver then becomes normally susceptible to chloroform liver injury. Methionine or methionine-rich protein digests (for example, casein) or various proteins given by mouth or by vein should prove useful to protect the liver against certain types of injury and to aid in organ repair.

Rate of Excretion of Alkali.

A. C. KUYPER (*The Journal of Biological Chemistry*, October, 1942) has investigated the rate of excretion of ingested acid and alkali. The alkali formed from ingested sodium citrate is excreted at approximately the same rate as the alkali of sodium bicarbonate. About twenty-four hours are required for complete elimination. Ingestion of calcium carbonate does not increase alkali excretion. The acid arising from ingested ammonium chloride is excreted at a comparatively slower rate than ingested bicarbonate. About two days are required for complete elimination.

Ketonæmia.

M. SOMOGYI (*The Journal of Biological Chemistry*, October, 1942) reports on the effects of glucose feeding upon the ketonæmia of healthy man. In healthy individuals a measurable decrease of the ketonæmic level takes place within from one to three hours after the administration of glucose. This change is attributed to the fat- and protein-sparing effect of carbohydrate in the metabolism of the liver. In cases in which the alimentary hyperglycæmia is followed by hypoglycæmia (usually during the third or fourth hour after administration of glucose) the ketonæmic level rises considerably above the post-absorptive level; this rise lags behind the appearance of hypoglycæmia and occurs in the fourth or fifth hour, sometimes only in the sixth hour. The explanation is offered that an increase in the rate of hepatic glycogenolysis entails an increase in the rate of production of ketone bodies, regardless of the nature of the glycogenolytic factor. Thus, spontaneous hypoglycæmia, protracted hypoglycæmia caused by insulin, fever, adrenaline, anterior pituitary extract, all produce increased ketonæmia at the same time that they enhance the rate of hepatic glycogenolysis. They fail, however, to increase ketosis if, simultaneously with them, factors are at work which inhibit hepatic glycogenolysis.

Ketone-Sparing Effect.

M. SOMOGYI AND T. WEICHSELBAUM (*The Journal of Biological Chemistry*, October, 1942) have investigated the ketone-sparing effect of glucose. It has been recognized in recent years that carbohydrates exert no ketolytic effect in the organism and that the phrase "fats burn only in the fire of carbohydrates" is unfounded. Experimental evidence is accumulating to demonstrate the contrary—namely, that carbohydrates exert a ketone-sparing effect in various extrahepatic (in the main, muscle) tissues, and, as a consequence, inhibit the burning of ketone bodies. This sparing effect manifests itself after glucose feeding in an increase of the existing ketonæmia (and ketonuria) of diabetic patients. The rise in ketonæmia occurs, however, only in cases in which the ability of the liver to utilize carbohydrates is greatly impaired, so that the liver continues to use fats (and proteins), and hence to produce ketone bodies, at nearly the same rate as before glucose feeding. Dogs from whom part of the pancreas had been removed and whose livers had been rendered very fat (16% to 20% fat content) by protracted administration of high fat diets, develop glycosuria and ketosis. Such animals respond to glucose feeding with an increase in ketonæmia and ketonuria in the same manner as diabetic men.

Glycogen Storage.

F. PAULS AND D. R. DRURY (*The Journal of Biological Chemistry*, October, 1942) report on the influence of insulin upon glycogen storage in the diabetic rat. Insulin administration causes diabetic rats to store large quantities of sugar. There are large increases in the glycogen content of the liver and muscles, but only 15% and 9% respectively of the stored sugar is accounted for by the extra glycogen in these tissues. There is no evidence that any appreciable part of the sugar which is not laid down as glycogen is oxidized. Only a negligible amount could be accounted for by possible protein synthesis. Transient storage as carbohydrate metabolites must be considered. Most ingested carbohydrate is normally stored as fat and it is considered the most likely possibility that this is the fate of the bulk of the sugar stored under the influence of insulin.

Cholesterol Formation.

K. BLOCH AND D. RITTENBERG (*The Journal of Biological Chemistry*, October, 1942) have shown that feeding sodium deuterio acetate to mice and rats leads to the formation of deuterio cholesterol. By degradation of the sterol isolated from the animals, isotope was shown to be present in both the side chain and the nucleus of the cholesterol molecule. A minimum of 13% of the hydrogen atoms of cholesterol was derived from the acetate ion. The actual value must be higher, as the dietary acetate must have been diluted either by endogenous acetate or a closely related derivative into which the acetic acid is converted by the organism prior to utilization for sterol synthesis. The experimental results exclude propionic, butyric and succinic acids directly, and pyruvic and aceto-acetic acids indirectly, as intermediates in the acetate-sterol conversion. The absence of deuterium in the fatty acids of animals fed deuterio acetate is additional support for the previously expressed view that fatty acids are not directly involved in cholesterol synthesis.

Hypertension and Malnutrition.

R. CALDER (*The Journal of Experimental Medicine*, July, 1942) has examined nutritional deficiencies as a cause of elevated blood pressure in rats. A deficiency of the entire vitamin *B* complex was followed by a slight fall in blood pressure. A deficiency of only the heat-stable fractions was followed by a significant and persistent rise in pressure, which could be reversed by restoring these factors to the diet. Partial deficiencies were followed by a higher rise of blood pressure than were complete deficiencies, perhaps because of the debilitating effects of the latter. Even an excessive intake of the heat-stable fractions of the vitamin *B* complex did not prevent entirely a rise of pressure if the diet was otherwise deficient. Under the latter conditions, the rise in pressure was slower and less marked than in those animals with a deficiency of the vitamin B_2 complex only. It therefore appears that, while a deficiency of the vitamin B_2 complex plays a dominant role in causing a rise in blood pressure in rats, other dietary factors as yet undefined are also involved. From analogy with other deficiency states, it is possible that these undefined nutritional factors cause their effects by interfering with absorption and utilization of the vitamin B_2 complex.

MEDICINE.

Arterial Hypertension.

ROY W. SCOTT (*The Journal of the American Medical Association*, September 5, 1942) presents an address on arterial hypertension, in which he expresses the belief that arterial hypertension and especially so-called essential hypertension is of renal origin. He states that now, with the proof afforded by Goldblatt and many others who have confirmed his results, the renal origin of hypertension is firmly established and Bright after a hundred years stands vindicated. The author reviews and examines the experimental and clinical evidence of the literature in support of his thesis that a renal mechanism is the cause of arterial hypertension, not only in that observed in primary renal disease, as is admitted by all, but also in the more common type hitherto called primary or essential hypertension. Disease, either inflammatory or vascular, affecting any organ except the kidneys does not produce a permanent elevation in blood pressure in man. Furthermore, experimental impairment of the blood supply to the kidney, and to no other organ in the body, results in protracted arterial hypertension. Also, as in the laboratory animal, so in man, unilateral renal disease may be the cause of hypertension, and the removal of the diseased kidney may result in a return of the blood pressure to normal. The author asks why, in view of these facts, the kidneys can be eliminated as the cause of hypertension. In the light of experimental and clinical observations, it is suggested that the correlation between arteriosclerosis, kidney disease and hypertension, which has puzzled physicians since Bright, may now be stated as follows: arteriosclerosis is the primary disease, and this process when affecting the vascular system of the kidneys excites a humoral mechanism which produces a widespread vasoconstriction and thus causes hypertension. Whether this is of the benign or malignant type depends on the progress and severity of the vascular lesions of the kidneys. Essential hypertension is a manifestation of renal vascular disease, and therefore it appears as one aspect of human arteriosclerosis, the nature of which is, as is well known, one of the greatest unsolved problems in medicine.

British Medical Association News.

MEETING OF THE FEDERAL COUNCIL.

A MEETING of the Federal Council of the British Medical Association in Australia was held at the Medical Society Hall, Albert Street, East Melbourne, on March 15, 16 and 17, 1943, SIR HENRY NEWLAND, the President, in the chair.

REPRESENTATIVES.

The following representatives of the Branches were present:

New South Wales: Dr. George Bell, O.B.E., and Dr. W. F. Simmons.
Queensland: Dr. T. A. Price and Dr. A. E. Lee.
South Australia: Sir Henry Newland, C.B.E., D.S.O., and Dr. A. F. Stokes.
Tasmania: Dr. C. Craig and Dr. J. S. Reid.
Victoria: Dr. F. L. Davies and Dr. H. C. Colville.
Western Australia: Dr. N. M. Cuthbert and Dr. F. W. Carter.

MINUTES.

The minutes of the previous meeting of the Federal Council of September 25, 26 and 27, 1942, which had been circulated among members, were taken as read and signed as correct.

APPOINTMENT OF OFFICE BEARERS.

Only one nomination for the office of President had been received, that of Sir Henry Newland, and he was therefore declared elected. Sir Henry Newland thanked the members for his reelection. Only one nomination for the office of Vice-President had been received, that of Dr. George Bell. Dr. Bell was declared elected. Dr. Bell was also reelected as Honorary Treasurer of the Federal Council.

APPOINTMENT OF GENERAL SECRETARY.

Attention was drawn to the fact that the appointment of Dr. J. G. Hunter as General Secretary would terminate on October 1, 1943. The appointment had been made for a period of two years. As it was not certain that another meeting of the Federal Council would be held before next October, Dr. Hunter was reappointed General Secretary for a period of two years as from October 1, 1943.

FINANCE.

Dr. George Bell presented a financial statement and balance sheet as at December 31, 1942. The statement, which included the Federal Council account of the Australasian Medical Congress (British Medical Association) fund account, was received and adopted.

The Council also received and adopted the Federal National Health Insurance Emergency Account.

Dr. George Bell raised the question of the *per capita* payment from the Branches to the Federal Council. The General Secretary referred to a notice of motion from the Queensland Branch to the effect that the constitution of the Federal Council should be altered so that it would be able to call up a sum in excess of 10s. It was pointed out that under its present by-laws the Federal Council had power to call up from the Branches a sum not exceeding 10s. per member *per annum*. The General Secretary reported that the Queensland proposal had been submitted to the several Branches and replies had been received. The New South Wales Branch supported the Queensland idea, but thought that a limit should be attached, and suggested that the amount that might be called up should not exceed £2. The South Australian Branch saw no reason for any change to be made. The Victorian Branch did not support the idea. The Western Australian Branch agreed with the suggestion, but thought that the amount called up should not be more than 16s. The Tasmanian Branch thought that the question should be thoroughly reviewed before a decision was reached.

After some preliminary discussion, consideration was deferred until a later stage of the meeting. When this stage was reached, Dr. A. E. Lee moved the motion standing in the name of the Queensland Branch. The motion was seconded by Dr. T. A. Price. Dr. Lee pointed out that in the opinion of the Queensland Branch the Branch representatives of the Federal Council were hamstrung before they reached the meeting because they were instructed by their Branches how to vote before they heard the matters discussed in the Council. It was thought that Branch Councils should be better informed of the activities of the Federal Council, and that they should be kept in touch with one another. In order that this might be achieved, it was thought that a whole-time secretary should be appointed and that office bearers and other members of the Federal Council might travel occasionally to different States to try to bring the policy of the several Branches into line with one another. For this more money would be required.

In answer to a question Dr. George Bell stated that the sum of 6s. had been called up for the current year, and Dr. H. C. Colville asked Dr. A. E. Lee whether an amount in excess of the 4s. unexpended for the current year would be required. Dr. W. F. Simmons said that the provision of a full-time secretariat would make necessary an increase in the capitation rate. Dr. T. A. Price stated that no other organization was so badly financed as the Federal Council and none needed the money more. Dr. N. M. Cuthbert remarked that both liaison and reconnaissance were needed because there were one hundred and one things to do. Sir Henry Newland suggested that a special committee might be appointed to go into the whole question. Dr. George Bell said that he would prefer to see a maximum limit stated. The General Secretary said that it would be desirable to have a statement drawn up setting out the duties of a full-time secretariat and its cost. With the approval of his seconder and the consent of the meeting, Dr. A. E. Lee withdrew his motion and it was resolved that a subcommittee consisting of Dr. George Bell, Dr. W. F. Simmons and the General Secretary should be appointed to report on the matter to the next meeting of the Federal Council.

DECORATIONS RECEIVED BY MEDICAL OFFICERS OF THE AUSTRALIAN ARMED FORCES.

The General Secretary reported that on behalf of the President and members of the Federal Council he had offered congratulations to the following members of the Australian armed forces who had been honoured by His Majesty the King: Major R. R. Anderson, M.C.; Lieutenant-Commander F. W. Bayldon, M.B.E.; Colonel J. Belisario, O.B.E.; Surgeon-Lieutenant A. G. Campbell, D.S.O.; Major B. M. Carruthers, O.B.E.; Colonel H. C. Disher, C.B.E.; Lieutenant-Colonel R. Drummond, M.B.E.; Lieutenant-Colonel H. G. Furnell, D.S.O.; Lieutenant-Colonel B. S. Hanson, O.B.E.; Surgeon-Lieutenant C. F. Harrington, D.S.C.; Surgeon-Lieutenant D. C. Jackson, D.S.C.; Brigadier W. W. S. Johnston, D.S.O., M.C., C.B.E.; Lieutenant-Colonel G. B. G. Maitland, D.C.M., D.S.O.; Captain E. J. C. Molesworth, M.C.; Lieutenant-Colonel A. W. Morrow, D.S.O.; Colonel F. K. Norris, D.S.O.; Lieutenant-Colonel R. H. Russell, D.S.O.; Captain J. J. Ryan, M.C.; Lieutenant-Colonel N. H. W. Saxby, O.B.E.; Colonel N. L. Speirs, V.D., C.B.E.; Major F. D. Stephens, D.S.O.; Captain J. L. Taylor, M.C.; Surgeon-Lieutenant-Commander E. M. Tymms, D.S.C.; Major F. K. Wallace, O.B.E.; Surgeon-Lieutenant S. A. C. Watson, D.S.C.; Lieutenant-Colonel J. J. Glyn White, O.B.E.; Lieutenant-Colonel W. W. Lempriere, D.S.O.; Colonel E. W. Woodward, O.B.E., D.S.O.; Captain W. H. Campbell, M.C.; Captain P. C. R. Goode, M.C.

THE DEATHS OF DR. G. H. ABBOTT AND DR. J. A. DICK.

Reference was made to the death of Dr. George Henry Abbott on November 7, 1942, and of Dr. James Adam Dick, C.M.G., V.D., on December 23, 1942. Dr. Abbott was a member of the Federal Committee at its inception and served as a member for some years. Dr. Dick was a member of the Federal Committee and later of the Federal Council. Both had given signal service to the association. Sir Henry Newland reported that he had written to the relatives letters of condolence and appreciation. The action of the President was endorsed.

DR. G. C. ANDERSON, C.B.E.

The General Secretary reported that he had received a letter from Dr. G. C. Anderson, C.B.E., Secretary of the British Medical Association in London, thanking the Federal Council for its congratulations on the honour received by him from His Majesty the King when His Majesty created him a Commander of the Most Excellent Order of the British Empire.

RETURN OF MEDICAL PRACTITIONERS IN AUSTRALIA.

The General Secretary reported that he had received an inquiry from the Western Australian Branch regarding the number of medical practitioners in Australia. He had informed the Western Australian Branch that Australian practitioners numbered 6,608. Of these, 2,010 or 30·4% were engaged in full-time duty with the armed forces.

MEDICAL OFFICERS' RELIEF FUND (FEDERAL).

Dr. George Bell submitted the balance sheet and trustees' report of the Medical Officers' Relief Fund (Federal) for the six months ended December 31, 1942. He referred to the decision of the previous meeting of the Federal Council that certain sums of money owing by practitioners who were on active service should be written off, and reported that this had been done. In addition one loan had been entirely paid off.

It was resolved that Dr. W. F. Simmons should be appointed a trustee of the Medical Officers' Relief Fund (Federal) in place of the late Dr. James Adam Dick, and the President was authorized to join in the deed proposed to be executed for the purpose of making such an appointment.

FEDERAL MEDICAL WAR RELIEF FUND.

At the previous meeting of the Federal Council consideration regarding the establishment of a federal medical war relief fund was deferred pending the clarification of the legal position in regard to taxation. The General Secretary reported that the taxation authorities had been approached in the matter in regard to taxation during the war and after the cessation of hostilities. It was learned that if the benefits which the fund was established to provide were available to members of the medical profession generally and not limited to members of the British Medical Association, the fund for income tax purposes would be a charitable institution and so not liable to income tax. It was also learned that, under Section 102AA of the *Income Tax Assessment Act*, 1936-42, the trustees of the fund would not be liable to be assessed in respect of any payments to them in accordance with the agreements during the war years, but that, if at June 30 next succeeding the end of the war, any part of the fund remained undistributed, the trustees would be assessable on the amount so remaining. Dr. F. W. Carter reported that he had written to the Commissioner of Taxation in Western Australia on behalf of the Western Australian Branch, and had learned that after June 30 following the conclusion of the war, relief funds would be taxed up to 18s. 6d. in the pound. In view of this information Dr. H. C. Colville questioned the advisability of establishing relief funds. After discussion it was resolved that the Federal Treasurer should be approached with a view to securing an amendment of the taxation act, and further, in the event of a favourable reply being received from the Federal Treasurer, the matter should be proceeded with and the Federal Council's legal advisers should be asked to draw up a trust deed.

AUSTRALASIAN MEDICAL PUBLISHING COMPANY LIMITED.

The General Secretary reported that the Directors of the Australasian Medical Publishing Company Limited had resolved to continue the rebate of 10s. per member for the supply of THE MEDICAL JOURNAL OF AUSTRALIA for the year 1943 in respect of each member who had totally relinquished civil practice at December 31, 1942, for continuous full-time service with His Majesty's forces. It was resolved on the motion of Dr. George Bell, seconded by Dr. H. C. Colville, that the thanks of the Federal Council should be conveyed to the company.

Further reference was made to the proposed agreement between the Federal Council and the Australasian Medical Publishing Company Limited in regard to the supply of THE MEDICAL JOURNAL OF AUSTRALIA to members of the Branches. At the last meeting of the Federal Council the draft agreement was discussed clause by clause, and certain alterations were made. The amended draft was then sent to the Australasian Medical Publishing Company Limited with a statement that the Federal Council was prepared to conclude the agreement if the draft was acceptable to the company. The General Secretary reported that he had received a letter from the Australasian Medical Publishing Company Limited stating that the draft was acceptable to the Directors. The Federal Council resolved that the agreement should be completed.

NATIONAL HEALTH INSURANCE.

Press Publicity Committee.

The reappointment of the Press Publicity Committee of the Federal Council was discussed. It was resolved that Dr. George Bell and Dr. W. F. Simmons should be reappointed members of the committee.

Dr. F. W. Carter raised the question of wider publicity for certain activities of the Federal Council. He pointed out that there were many important matters in regard to which it was necessary that the several Branches should speak with one voice at the same time. After several members had agreed that a larger committee might be necessary for purposes other than those connected with national health insurance, it was resolved that Dr. George Bell and Dr. W. F. Simmons should be asked to report to the next meeting of the Federal Council on the question of enlarging the activities of the Press Publicity Committee.

The New Zealand Social Security Amendment Act, 1941.

The General Secretary reported that he had received from the Secretary of the New Zealand Branch a report on the medical benefits of the New Zealand *Social Security Amendment Act*, 1941, written by Dr. J. P. S. Jamieson, Chairman of the National Insurance Committee, and that he had sent a copy of the report to each member of the Federal Council. The report, which was formally received, was discussed at a later stage of the meeting.

THE POWERS OF THE FEDERAL COUNCIL IN RELATION TO BRANCH MEMBERS.

The General Secretary read a letter from the Queensland Branch suggesting that steps should be taken by each of the Branches to transfer to the Federal Council powers to negotiate with the Federal Government. It was resolved on the motion of Dr. A. E. Lee, seconded by Dr. T. A. Price, that the matter should be discussed. Dr. Lee expressed the view that the Federal Council had no power to bind the Branches, but that each decision of the Council had to be sent for confirmation to the Branches. He thought that the Branches should delegate powers to the Federal Council so that the decisions of the Council would be binding to members.

The General Secretary pointed out that the matter arose in connexion with the decision of the last meeting of the Federal Council concerning an agreement with the Repatriation Department with regard to attendance on the widows and children of deceased soldiers. When the decision of the Federal Council was sent to the Queensland Branch, members of the Branch Council decided that they could not agree with the Federal Council's decision. The difference of opinion had been so acute that secession from the Federal Council was actually mooted by the Queensland Branch Council. It was only after a visit from Dr. W. F. Simmons to the Queensland Branch that the Queensland Branch Council agreed to the Federal Council's decision with certain provisos. The General Secretary thought that the powers of the Federal Council should be stated with certainty. Dr. H. C. Colville said that a decision regarding the powers of the Federal Council should be made. The present way of arriving at decisions was cumbersome. In his opinion all doubt should be resolved. Dr. F. W. Carter agreed with Dr. Lee and Dr. Colville, and insisted that the only way was for the Federal Council to act for and on behalf of the Branches. Unless the Federal Council had greater powers, much progress could not be made. Dr. T. A. Price thought that the difficulty was not with the Councils but with Branch members. It was for this reason that he wanted officers of the Federal Council to visit the States from time to time to educate the Branch members in regard to what should be done. They should be able to "feel the pulse" of Branch members. Dr. A. E. Lee repeated his previous statement that the representatives from the Branches were already bound to certain decisions when they met at Federal Council meetings. Dr. W. F. Simmons agreed with previous speakers and thought that many of the Federal Council meetings were rendered futile, because the machinery for arriving at a decision was so often cumbersome; sometimes indeed up to a year was required before a decision in any particular matter was reached. The General Secretary read a section from the memorandum of association of the Federal Council, in which its objects were set out. Sir Henry Newland expressed the opinion that the Federal Council already had the necessary powers. After further discussion it was resolved that legal opinion should be obtained as to whether the Council had the power to bind the Branches to its decisions.

THE NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL.

The General Secretary laid on the table the report of the fourteenth session of the National Health and Medical Research Council, held on November 23 and 24, 1942. The report was received.

At the previous meeting of the Federal Council consideration was given to a suggestion of the Queensland Branch that the Federal Council's representative on the National Health and Medical Research Council should be a general practitioner member of the Federal Council. It was

resolved at that meeting that the Branches should be asked for their views on the suggestion. The Victorian Branch had replied that it was satisfied with the present arrangement. The Tasmanian Branch thought that the best man available should be chosen for the position, regardless of whether he was a general practitioner or not. The South Australian Branch left the matter to the discretion of its representatives. The New South Wales Branch agreed that the Federal Council's representative should be a general practitioner. The General Secretary pointed out that the term of office of Dr. J. Newman Morris, the present representative, had terminated on December 31, 1942. Sir Henry Newland said that the matter was one of great importance. He thought that the Federal Council's representative should be associated with research. The representatives of the colleges on the National Health and Medical Research Council had been appointed on account of their interest in research, and he thought the same consideration should influence the selection of a Federal Council representative. He reminded the Federal Council that although Dr. J. Newman Morris was a member of the subcommittee responsible for the scheme of a salaried service approved by the National Health and Medical Research Council, he had refused to sign the document. Sir Henry Newland saw a danger in the appointment as representative of one whose main interests lay in medical politics. Dr. F. L. Davies could not agree with Sir Henry Newland's view. He submitted with respect that if the Federal Council appointed a representative who was interested in research, it did not relieve the Council of any responsibility in medico-political matters. The Federal Council's representative should be able to present the view of the practitioner; he need not necessarily be a general practitioner. It was logical that the representative of the association should be a practitioner. He recalled a statement by Professor F. Wood Jones before Dr. Morris was appointed that the selection of a practitioner as the association's representative would be valuable. The General Secretary remarked that it was thought at its establishment that the National Health and Medical Research Council would be a scientific body. The fault lay in its constitution, and it was clear that latterly the Council had become a medico-political body. Dr. T. A. Price thought that a general practitioner would be able to take a wide view of most subjects. Dr. N. M. Cuthbert thought that the representative should be in active practice, and Dr. George Bell wondered whether the appointment of a general practitioner as Federal Council representative would appear to condone the turning of the Council into a medico-political body. Dr. F. W. Carter agreed that the Council should be primarily a scientific body. Dr. C. Craig thought that it would be an error to appoint a member who was not thoroughly representative of the profession. Whatever the Federal Council did, the National Health and Medical Research Council would continue to be a medico-political body. A motion by Dr. A. E. Lee, seconded by Dr. T. A. Price, that the representative of the Federal Council on the National Health and Medical Research Council should be a general practitioner was put to the meeting and lost. It was then resolved that the representation of the Federal Council on the National Health and Medical Research Council should be restricted to a member of the Federal Council. It was then resolved on the motion of Dr. C. Craig, seconded by Dr. T. A. Price, that Dr. W. F. Simmons should be appointed the representative of the Federal Council on the National Health and Medical Research Council for three years, commencing from January 1, 1943.

Dr. H. C. Colville spoke in terms of great appreciation of the work done by Dr. J. Newman Morris as representative of the Federal Council on the National Health and Medical Research Council. He moved that a letter should be sent to Dr. Morris thanking him for his services in the past. The motion was seconded by Dr. W. F. Simmons and carried.

MEDICAL PLANNING.

At the last meeting of the Federal Council a discussion took place on a general medical service for Australia on a salaried basis. The Federal Council had before it the scheme for a medical service drawn up by the National Health and Medical Research Council and also a scheme drafted by a subcommittee of the Victorian Branch. On that occasion the Federal Council resolved that these schemes should be referred to Branch Councils for their comments and criticisms, and that the reports of the Branch Councils should be discussed at the next meeting of the Federal Council, so that the Council might be in a position to present its views to the Commonwealth authorities at the appropriate time. The General Secretary explained that he had included under the heading of medical planning on the agenda paper many different matters connected with the future of the practice of medicine. After some preliminary discussion regarding the best way to tackle the problem, the General Secretary read some correspondence from the Branches and presented reports from the New South Wales and Victorian Branches on the two schemes discussed at the previous meeting.

Sir Henry Newland said that he thought the Federal Council should adopt some general principles. He suggested that the following questions should be answered:

> (*a*) Are you in favour of a plan to provide a system of medical service directed towards the achievement of positive health, the prevention of disease and the relief of sickness?
>
> (*b*) Are you in favour of a plan to render available to every individual, irrespective of economic status, all the necessary medical services, both general and specialist, and both domiciliary and institutional?

He said that if such a plan was to be accepted or favoured, it followed first, that an income limit or means test formed no part of the plan; secondly, that in addition to the provision of needs by the general practitioner, consultant, specialist and institutional treatment would become statutory benefits, with the corollary that group practice must develop; and thirdly, that the distribution of general practitioners, specialists, institutional and auxiliary services must be such as would meet those needs. Sir Henry Newland also thought that the following questions should be discussed:

> 1. Are you in favour of the plan being administered by a government department?
>
> 2. Are you in favour of the plan being administered by a statutory body?
>
> 3. Are you in favour of the plan operating to the exclusion of independent private practice, that it should be compulsory and all-embracing?
>
> 4. Are you in favour of the remuneration of the practitioners engaged in the relief of sickness in a non-institutional environment, being on a whole-time salaried basis, on a capitation basis, or a fee-per-service basis?
>
> 5. Are you in favour of the extension of hospital services for general practitioners?
>
> 6. Are you in favour of the plan being financed by: (i) Contributory insurance methods? (ii) State funds provided (*a*) out of general revenue? (*b*) by a health tax graded according to income?

Dr. H. C. Colville agreed that it was necessary to arrive at some policy on general principles, for use in the event of negotiations having to be undertaken. He said that although much time had been given to the subject in the Federal Council, up to that point the Council had done little but dissect and consider schemes of which it was not in favour. He thought that it was time that the schemes were embodied in general resolutions which would be acceptable to the profession. He said from the President's remarks it would appear that some form of socialized medicine was to be introduced. He questioned whether it was wise to make this assumption. There was no certainty that such legislation would be introduced. Further, it was a sign of weakness to say that the profession was threatened and that therefore it had better consider what course it should adopt to meet the threat. The profession should say, first of all, what it did not want the Government to do, and should have a policy. After that it might be well to have plans to cover certain situations. It was wrong to go into details as to what payment would be made to medical practitioners if they were public servants. Most medical practitioners wished private practice to remain, and all the discussions tended to show that no general upheaval was desired. Dr. Colville suggested that these ideas should be embodied in a policy and then the Federal Council might go into details in regard to things that might be thrust upon the profession. The points that appeared to him as already laid down were as follows: (i) The profession was opposed to any change during the war or for one year afterwards. (ii) The medical profession was opposed to the institution of a medical service, if the introduction of such a service meant the abolition of private practice. (iii) The members of the profession were willing and anxious to bring about certain essential improvements in the existing form of medical service to the community. (iv) It might be advisable to approach the Government and express a desire to discuss the situation. Dr. Colville thought that the Federal Government should be met. The members of the

medical profession should not cower in a corner and wait to see who was going to hit them. It was better to go into the open.

The General Secretary then read a preliminary report by the Victorian Branch on suggested improvements to the present state of medical practice. In this report the Victorian Branch first of all stated that the object of reorganization was the improvement of the health of the people. It then enumerated the following as the most serious faults in the present system of medical practice:

1. A section of the population who are in receipt of only moderate incomes have not readily available means of obtaining radiological and pathological investigations and specialist opinions.
2. A section of the community is unable to afford the cost of serious and long-continued illness or major surgical operations.
3. There is a lack of hospital accommodation readily available for the immediate admission of patients requiring attention.
4. Some communities which are sparsely populated have difficulty in obtaining medical care.
5. The distribution of doctors is not, in all cases, in accordance with the needs of the population.
6. Out-patient departments at public hospitals are overcrowded.

The report then set out certain proposals for improvement. The proposals included the following: (i) the establishment of decentralized investigational centres to meet the needs of those in receipt of moderate incomes; (ii) the extension of community hospitals placed geographically in accordance with population and the provision of far more intermediate beds; (iii) the institution of a lower scale of fees for surgery and hospital treatment in medical cases to meet the needs of the intermediate group; (iv) the establishment of infirmaries or simple hospitals for the treatment of patients with chronic diseases; (v) the provision of more beds in tuberculosis sanatoria; (vi) the extension of ambulance services; (vii) the encouragement of the establishment of group practices with a tendency to whole or partial specialization; (viii) revision of the honorary system; (ix) provision of domiciliary treatment of the indigent.

Dr. W. F. Simmons said that in general the Victorian report expressed the views of the New South Wales Branch. Dr. Colville therefore moved the following motion:

> That the Federal Council is completely opposed to any drastic alteration in the form of medical service to the community during the war and for one year afterwards.

In seconding the motion, Dr. C. Craig said that it was of the utmost importance. The problem had been forced on the medical profession while there was a homicidal maniac at the front door. It was wrong of the Government to do this, and to make men think of such new problems while the war was on. The views of the medical profession in this regard should be made clear at once, for everybody in the community should be thinking of winning the war. The motion was carried.

Dr. H. C. Colville then proposed and Dr. A. F. Stokes seconded the following motion:

> That the Federal Council, having ascertained the views of the medical profession in Australia, is opposed to a nationalized salaried medical service with consequent abolition of medical private practice.

Dr. Colville thought that stress should be laid on the fact that the general public would not wish to have private practice abolished. People did not know what nationalization meant. At the present time people went to him and said: "Ha! Ha! The medical profession is going to be nationalized!" Dr. Colville was in the habit of replying that he did not know whether that was true or not, but if it was, all he could say in reply was: "Ha! Ha! So is the public!" Dr. Colville was quite certain that the public would be just as opposed to a scheme of nationalization as the profession, and he believed that the Federal Council would speak not only for the profession, but for the community as well.

In the discussion which ensued, reference was made to the Bankers' Health Society, which was a cooperative friendly society providing benefits for bank officials. Dr. W. F. Simmons said that the members of the Bankers' Health Society had been asked whether they preferred to accept the doctors provided for them by the society and not pay anything towards their medical care, or whether they would like to choose their own doctors and pay a proportion of the charges; 98% of members chose the latter course. Dr. T. A. Price confirmed this statement, and said that the desire among the public to choose a doctor was strong. The motion was carried.

The Federal Council also resolved:

> That the medical profession, through the Federal Council of the British Medical Association in Australia, is willing and anxious to cooperate with the Government in bringing about certain essential improvements in the existing forms of medical service to the community.

Consideration of Resolutions and Reports of Branches.

Dr. H. C. Colville suggested that the Federal Council should proceed to consider the resolutions and reports of the Branches with a view to the adoption of any that were suitable as the policy of the Federal Council.

Resolutions of the New South Wales Convention.

At this stage it was resolved on the motion of Dr. George Bell, seconded by Dr. A. F. Stokes, that consideration should be given to the resolutions of the New South Wales Branch convention held on February 5, 1943, which were afterwards adopted by the Council of the New South Wales Branch.

Dr. W. F. Simmons moved and Dr. F. W. Carter seconded the following motion:

> That the following broad definition of the objects of a medical service be adopted: (*a*) to provide a system of medical service directed towards the achievement of positive health, the prevention of disease and the relief of sickness; (*b*) to render available to every individual all the necessary medical services, both general and specialist, and both domiciliary and institutional.

Dr. A. E. Lee, in discussing the motion, said that the provision of personal health services had developed along three lines. In the first place there had been an extensive development of hospital services supported by voluntary contributions or by the State, as set out in paragraph 42 of the Federal Council's scheme for a general medical service. He said that the hospitals might not have attained the highest point in efficiency, but there was certainly nothing chaotic about them, either in their organization or their aims. The second form of development had been by the growth of contract practice which had been evolved over a long period of time with the help of the profession and scarcely merited the term chaotic. In the third place, for the remainder of the population health services were offered under private practice on a fee-per-service basis. The development of this practice was again in no way chaotic, for it was a typical medical response to the individualistic society in which it existed. While such a society remained, those who could afford to do so would continue to seek health services on the same basis. The fact that these different methods of practice had grown up parallel with one another was not a sign of chaos, but of a response to differing human needs and characteristics. Dr. Lee thought that in the future no less than in the past patients would wish to choose between these types of service, and a large proportion would always be dissatisfied if they were dragooned into the acceptance of a single type or system.

The motion was put to the meeting and carried.

It was resolved that the principle of free choice of doctor and patient is an essential feature of any service.

The Federal Council also adopted the New South Wales resolution which stated that whilst the health of the community is a national matter, there is a duty on every individual to accept a moral and social responsibility for his health and that of his dependants; also that this individual responsibility should be one of the basic principles in any medical service.

After resolving that a whole-time salaried basis for a nation-wide medical service is not in the best interests of the community, the Federal Council adopted the following resolution:

> That the optimum efficiency of medical service to the people of Australia will be provided by the following structure—the existing consultant, general practitioner and hospital services, with all adjuncts and these necessary additions:

(a) Safeguarding and improvement of nutritional and housing standards;
(b) adequate provision for research and statistical investigation;
(c) decentralized diagnostic laboratory centres throughout the Commonwealth;
(d) an extended consultant service to make ready consultation available to all members of the community;
(e) group practice initiated by members of the profession themselves;
(f) extension through government grant of the Flying Doctor Service;
(g) increased subsidized practitioner service to outback centres;
(h) extended industrial, venereal, immunological and other preventive medical services;
(i) extension of the present maternity services, with the establishment of hostels for waiting mothers;
(j) extended hospital construction and equipment with special reference to tuberculosis and mental diseases; and the crippled, bedridden and the aged; and the provision of private and intermediate wards at all public hospitals;
(k) extension and improvement of standards of post-graduate training with a subsidy to medical practitioners unable otherwise to avail themselves of these facilities.

During the discussion on this resolution, Dr. F. L. Davies pointed out that there was a good deal of misconception about what group practice actually was.

Some modifications were made in the resolution of the New South Wales convention dealing with the improvements necessary in the social services of Australia, and a resolution was adopted in the following form:

That, in considering improvements in the social services, the Federal Council of the British Medical Association in Australia recommends that the following matters be kept in mind:

(a) Provision to enable the wage-earner, when a sufferer from pulmonary tuberculosis, to be treated apart from his family until no longer infectious, and provision for the financial care of his family;
(b) in small towns the civilian ambulance service to be attached to and run by the hospital;
(c) improvement in the medical services to the middle income group and the provision of domiciliary treatment to the indigent;
(d) the extension of invalid pensions, in certain cases, to those temporarily and partially disabled;
(e) the extension and unification of hospital contribution schemes.

Group Practice.

The Federal Council considered the question of group practice as referred to in the New South Wales convention resolution dealing with that subject. Dr. A. E. Lee pointed out that this brought up the whole question of the control of the profession. He thought that consideration might be given to the inauguration of a guild to deal with the practice of medicine. A guild was not a theoretical method of control. It existed already in certain parts of Australia in connexion with other professions. For example, the Queensland Law Society was a guild, and exercised complete control over its members. As applied to medical practitioners, the guild had certain advantages. It meant that all medical practitioners in a State would have to belong to the guild, and the Government would give power to the guild to control the profession. If this power were granted to the guild, it would be able to do something to compel the introduction of such innovations as group practice and also compulsory post-graduate education. Dr. F. L. Davies said that the point that was worrying him was the right of men to start in practice. He thought that the establishment of groups would prevent men from starting if they wished to do so. Dr. T. A. Price said that the word "guild" was an old one and that today it would amount really to compulsory unionism. He was in favour of it, because he thought it was necessary to efficiency. Under a guild the profession would control itself. The State of Queensland had a board to approve of the registration of specialists. There was right of appeal to a judge from the decisions of this board. Several appeals of this kind had been made, and in every instance the decision of the board had been reversed. Dr. H. C. Colville pointed out that the question at issue was the encouragement of private group practice. Dr. W. F. Simmons was of the opinion that something should be done. He referred to the conditions existing in one town in New South Wales, where nine men practised before the war. This number had been reduced by the exigencies of war to five. These five practitioners had made a wartime partnership. This was one form of group practice. If such a thing could be done during a war, why could not medical practitioners combine in some way during peace? Dr. H. C. Colville said that Dr. Simmons had missed the point. The practitioners to whom Dr. Simmons referred had made domestic arrangements to facilitate the running of their own affairs. The question that was being discussed had a much wider range. The question that should be decided was how group practice would benefit the community and not the doctors. Dr. N. M. Cuthbert said that group practice implied at least partial specialization. Its institution would mean that the public would have to do less travelling. In certain country areas it would certainly be useful. Dr. F. L. Davies was opposed to medical practitioners being grouped for purposes of consultation all in one centre. This meant that patients would have no privacy over the fact that they were consulting a doctor. Dr. T. A. Price said that it should be possible either to have a small private group or all the men in an area forming one group. He pointed out that no practitioner tackled every type of medical practice, and that group practice would only enlarge what was done at present. Sir Henry Newland pointed out that there was a difference between a group centre and a health centre. A health centre was a group centre, but every group was not a health centre. Sir Henry Newland drew attention to clause 63 of the interim report of the Medical Planning Commission (see THE MEDICAL JOURNAL OF AUSTRALIA, March 6, 1943, page 205). Dr. George Bell said that groups had to be regarded as centres in which partial specialization would be practised; otherwise the bad out-patient system of hospitals might be perpetuated. At the same time, he admitted that the problem was how groups were to be controlled. Dr. H. C. Colville moved:

That greater efficiency and economy would be secured and less expense incurred if groups of practitioners would cooperate to conduct a single centre at which all of them would see their own patients and share equipment and the services of secretarial, domestic and dispensing staff. The value of the practitioner to his patients would gain immeasurably from his close and constant contact with his colleagues.

At the suggestion of Dr. C. Craig the following words were added to Dr. Colville's motion:

Such group practice implies partial or complete specialization.

The motion was carried.

At this stage it was resolved that a subcommittee of the Federal Council, consisting of Dr. A. E. Lee, Dr. C. Craig and Dr. W. F. Simmons, should be formed to "implement" methods for the encouragement of private group practice.

The committee subsequently presented to the Council the following report, which was adopted.

At the last meeting of the Federal Council a resolution was adopted: "That the Federal Council should formulate plans and details for the modification of the present type of medical practice, with particular reference to the establishment and encouragement of private group practice."

The adoption of group practice has been urged by almost all the bodies engaged in medical planning in Australia and in England.

The interim report of the Medical Planning Commission in Great Britain stated in this regard, that "greater efficiency and economy would be secured and less expense incurred if groups of practitioners would cooperate to conduct a single centre at which all of them would see their own patients and share equipment and the services of secretarial, domestic and dispensing staff. The value of the practitioner to his patients would gain immeasurably from his close and constant contact with his colleagues."

Lee has enumerated the advantages of group practice as follows:

"In the areas of denser population there is everything to be said for the limitation of practice without groups.

"Next to integrating specialties group practice brings the ancillary services to the doctor. But neither of these represents the real gain to the patient, which is that group practice by the constant personal consultation between its integral units develops a highly educated and disciplined staff. This modification of practice is capable also of solving two other interdependent problems, that of freedom of choice for patients and that of giving the capable young medical man his chance.

"Even more important than consultant grouping is group practice on the general practitioner plane, and that for several reasons: it solves the problem of freedom of choice, it brings the laboratory to the patient, it encourages limitation of practice while at the same time integrating this specialism on the general practitioner level; but especially it brings to the general practitioner the educational and disciplinary advantages enumerated above."

Though the foregoing describes a highly developed form of group practice, this modification of practice consists fundamentally in the replacement of competitive individual practice by cooperation. This cooperation may take the form of either practice in partnership, or of the sharing in common of equipment, technical, secretarial, domestic and dispensing staffs, and in certain cases practice in a common building.

The simplest initiation of group practice is by doctors practising in geographical proximity deciding on partnership. Once cooperation is secured, limitation of practice between them should be deliberately sought.

In suburban areas groups of about ten practitioners should engage in cooperative practice in the manner already described, and from this cooperation specialization on the general practitioner level will develop inevitably.

The association of junior specialists with these groups will be a natural sequel to their formation.

The main virtues of group practice may be again stated as: (1) educational; (2) economic, both to doctor and patient; (3) practice limitation offers increased efficiency to the patient, and greater satisfaction to the doctor; (4) roster work is more easily arranged and time made available for recreation; (5) since grouping is one of the essential technical changes envisaged in schemes for a government nationalized service, its voluntary implementing by the doctors themselves should be an important safeguard against the introduction of such schemes.

The State councils, and through them the local associations, are advised to survey the distribution of doctors in their towns and suburbs, in order that concrete suggestions should be put to their members for the development of cooperative practice. The virtues of such a modification of present practice should be made clear to them, and this purpose and also a survey of the distribution of doctors might best be effected by the appointment of a medical organizer to make personal contact with members.

In moving the adoption of the report, Dr. H. C. Colville said that in his opinion it was impracticable during the war to do a great deal towards the creation of group practices—it was essentially a peace-time problem.

Dr. A. E. Lee seconded the motion and said that it was necessary to educate the members of the profession. The motion was carried.

The following resolution was adopted on the motion of Dr. George Bell, seconded by Dr. W. F. Simmons:

> That in any general medical service for Australia administration should be in the hands not of a government department but of a corporate body, which should be composed of (*a*) non-medical members of knowledge and experience in health matters, nominated on a non-political basis, and (*b*) medical men, who shall constitute a majority of the corporate body, elected by the practising medical profession.

The New South Wales convention had adopted a resolution to the effect that the complete disciplinary control of members accepting service under any scheme should be exercised by members of the British Medical Association only. When this was discussed by the Federal Council the view was expressed that the persons exercising control should not necessarily be members of the British Medical Association. The resolution was then adopted in the following form:

> That complete disciplinary control by members accepting service under any scheme should be exercised by members of the medical profession only.

The Federal Council resolved that if any scheme was formulated during hostilities, full opportunity for its consideration should be offered to members of the medical profession, including those serving with the fighting forces.

The Council further resolved that in the event of the adoption of any scheme which destroyed the equity of medical practice, adequate compensation should be made.

Victorian Report on Improvements to the Present State of Medical Practice.

Detailed consideration was given to a report on suggested improvements to the state of medical practice that had been adopted by the Council of the Victorian Branch. Many of the items in this report were covered by other resolutions adopted by the Federal Council. Some further items, however, were not adopted because they came into conflict with resolutions already adopted.

Conference with Representatives of the Two Royal Colleges.

At this stage of the meeting a conference took place between the Federal Council and representatives of the Royal Australasian College of Physicians and the Royal Australasian College of Surgeons.

Sir Henry Newland welcomed Sir Trent Champion de Crespigny and Sir Hugh Devine before inviting them to speak, and asked the General Secretary to read the resolutions so far adopted.

Sir Hugh Devine, speaking first, said that he wished to thank the Federal Council for the invitation to be present and to confer with the Federal Council. He found it a little difficult to comment at such short notice on the resolutions which had been read. He thought, however, that they marked a step forward from the plan which had been previously announced by the Federal Council, because they dealt with general principles. The resolutions had been adopted by men who practised in widely separated parts of Australia and who should therefore know what was required. They were not a product of armchair reasoning. Sir Hugh Devine thought that the great stumbling block in the way of thoughtful planning for a national medical service was that the scheme of the National Health and Medical Research Council which had received so much publicity, was the result of thought in the armchair. He said that unanimous opposition would be required to show that the scheme was unsound and not in the best interests of the people, and this would have to be done as a preliminary step to planning on a new basis. Whatever was done should be planned on the evolutionary methods of today, and they were not bad. Sir Hugh Devine believed that the freedom of private enterprise should be preserved. He referred to the Interim Report of the British Planning Commission which was originated by the British Medical Association. He thought that such a scheme would completely cut the ground from under the feet of the Government. For one thing it was entirely altruistic and the general public did not think that the British Medical Association could be altruistic. In regard to group practice, Sir Hugh Devine thought that it would be most effective if it was linked up with some form of endowment. It could be only partly self-supporting and should be partly financed by other means, such as a lend-lease arrangement with the Government. Sir Hugh Devine then repeated a statement which had been made on previous occasions—that, in the opinion of the College, the Federal Council was the one body which should speak for the whole of the profession in Australia. He then said that the executive of the College had laid down certain fundamental principles which he proposed to read, but he pointed out that these principles had not yet been adopted by the College as a whole. Sir Hugh Devine enumerated the essential principles which, it was thought, should govern any national medical service in which a sound surgical and surgical-specialist service would be included. The principles were as follows:

> 1. The full benefits of the most efficient medical and surgical treatment must be available to every member of the community.
>
> 2. That in any reorganization of medical practice, as full a measure as possible of free choice of family doctor or specialist should be preserved.

3. Control of a national medical service must be vested in a body in which all sections of the medical services are adequately represented, and should be divorced from governmental and political control.

4. In any national medical service there should be a cash medical benefit for specialist service which could be accepted in lieu of the specialist service available under the scheme. The object of such a cash benefit would be to enable the patient to exercise his right of a free choice of medical attendant or specialist. The cash benefit would thus permit him, if he did not wish to be treated by the medical personnel provided by the national medical service, to obtain treatment either from other medical men in this service or from doctors in private practice.

5. In a whole-time salaried medical service to be applied throughout Australia, as set out by the National Health and Medical Research Council, it is our opinion that this freedom of choice would not be possible. We are also of opinion that a more effective service could be provided by a process of evolution on the basis of the present system.

6. This would not exclude the possibility of whole-time salaried officers being provided in remote areas.

Sir Hugh Devine also enumerated the following as essential principles in specialist surgical service:

1. Surgeons and surgeon specialists must possess a surgical qualification based on training and academic qualifications, and granted by a recognized professional body.

2. Surgical and surgical specialist services should be staffed only by properly qualified surgeons and surgeon specialists. The services of these specialists should be available to all members of the community, even to those in the most remote parts. This would necessitate an adequate supply of properly trained surgeons and specialists. It would also require that special financial arrangements would have to be made to provide surgeons and surgeon specialists in the sparsely populated districts. The provision of a sufficient number of adequately trained surgeons and surgeon specialists would require an organized scheme for the post-graduate training of this personnel.

3. All public hospitals should be expanded into community hospital systems. Hospital systems on this basis should, as the demand arises, be infiltrated throughout Australia.

4. The services of surgeons and surgeon specialists in these community hospital systems should, as far as possible, be part time, so that the rich experience gained by them would be available to all sections of the community. These services should be on a paid basis in teaching hospitals, and they would be responsible for undergraduate and post-graduate training.

Sir Trent de Crespigny thanked the Federal Council for the invitation to be present and to discuss the matter, and said that the subject under discussion had received much consideration by the Royal Australasian College of Physicians. At a meeting held in Sydney a year before, subcommittees had been appointed, and these subcommittees had consisted as far as possible of the younger Fellows and members. The subcommittees had reported to the Council and the Council had drawn up a report based on the supposition that a salaried medical service was inevitable and setting out the views of the Council if such a service should be set up. On March 13, 1943, however, the Council had met and had reviewed the resolutions of the New South Wales convention. The Council had then adopted certain resolutions. The first resolution was as follows:

> In any endeavour to improve the health of the citizen, that part of it which concerns the treatment of the sick should be founded on the present system with improvements which experience has shown in the past, and may show in the future, to be necessary, and not on a general salaried service.

Sir Trent de Crespigny also said that the Council had then considered the resolutions adopted at the New South Wales convention. Most of them had been adopted with certain amendments. In its definition of the objects of medical service, the following was included: "To provide education of the public, both children and adult, on the subjects of nutrition, infection and personal hygiene." The Council also resolved that the principle of free choice of doctor and patient was an essential feature of any service. It also adopted the New South Wales resolution that whilst the health of the community was a national matter, there was a duty on every individual to accept a moral responsibility for his own health and that of his dependants, and that this individual responsibility should be a basic element in any service. The Council also declared that a whole-time salaried basis for a national medical service was not in the interests of the community. The Council adopted the resolution set out in a preceding section in regard to the additions to the present structure of medical practice which were necessary to provide an efficient medical service. In reference to the resolution dealing with improvements in social services and the matters which could be borne in mind, the Council of the Royal Australasian College of Physicians included two not mentioned in the resolution as previously set out. They were (*a*) the avoidance of the building of unnecessarily elaborate hospitals and (*b*) the establishment of convalescent and old people's homes in the country. Sir Trent de Crespigny went on to say that the following three memoranda had been also adopted at the meeting of March 13:

1. We are opposed to any bureaucratic or political control of the profession generally.

2. That if any scheme be formulated during hostilities, full opportunity for its consideration must be offered to the profession, including those in the fighting forces.

3. We support the British Medical Association in the view that in the event of the adoption of any scheme which destroys the equity of medical practice, adequate financial compensation should be made.

In regard to the other matters mentioned, the register of consultants and the payment of the honorary staffs of hospitals, Sir Trent de Crespigny said that he would be unable to answer until he had consulted the Council of the Royal Australasian College of Physicians. He remarked, however, that the medical register showed a man's qualifications. In regard to the payment of hospital staffs, the problem was surely different in each State and was scarcely worth considering in a discussion on the principles of a medical service.

Sir Hugh Devine and Sir Trent de Crespigny then retired from the meeting. After their retirement the Federal Council discussed the statements of the two Colleges, clause by clause, and adopted them.

Dr. H. C. Colville said that he agreed entirely with Sir Hugh Devine that it was an essential in any approach to the Government to have a good scheme ready to present. He found that the unanimity between the Colleges and the Federal Council was very gratifying. All three bodies had the same aims. Previously he had scarcely thought that this might be possible. In his opinion any policy that was formed should be a combined policy, for in this way it would have greater weight. Sir Henry Newland said that he thought that was the intention.

The Federal Council's Scheme for a General Medical Service.

The General Secretary raised the question of the Federal Council's original scheme. Dr. A. E. Lee moved that the Federal Council scheme be abandoned. This was seconded by Dr. T. A. Price. Dr. N. M. Cuthbert moved that the scheme should be recast, and this motion was seconded by Dr. F. W. Carter. Dr. N. M. Cuthbert referred to the fact that most of those who gave evidence before the Parliamentary Joint Committee on Social Security had referred to the Federal Council's scheme. Dr. A. E. Lee thought that a scheme of compulsory insurance with an income limit was a partisan policy and should be abandoned. Dr. H. C. Colville supported Dr. Lee. He thought that the Federal Council had advanced a long way since the adoption of the Bell-Simmons report. This report was now obsolete. It was impossible for the Federal Council to embrace the resolutions adopted at the present meeting and at the same time adhere to the old scheme. Dr. T. A. Price pointed out that the Bell-Simmons report originated really in 1935. It had nothing to do with the other schemes that were at present before the Federal Council. Dr. W. F. Simmons remarked in defence of Dr. George Bell and himself that the profession had been caught napping when Sir Walter Kinnear had visited Australia. At that time there was no policy. The report that had become known as the Bell-Simmons report was the result of two years' work and had been brought before the Federal Council in 1941. It was an honest attempt to stir up interest in the matter. Sir Henry Newland said that really the matter went further back still, for the Federal Council had had a report from himself, Dr. Bronte Smeaton and Dr. J. Newman Morris. After further discussion the amendment was carried and was then put to the meeting as the substantive motion and carried.

On the motion of Dr. N. M. Cuthbert, seconded by Dr. F. M. Carter, Dr. F. L. Davies, Dr. George Bell and Dr. A. F. Stokes, with the General Secretary, were appointed to form a committee to consider the recasting of the Federal Council scheme for a general medical service.

Later on in the meeting, Dr. A. F. Stokes, the chairman of the committee, reported that certain amendments had been made and suggested that they be adopted. They were then read and discussed *seriatim*. It was first resolved that Clause 24 in the Federal Council's scheme (see THE MEDICAL JOURNAL OF AUSTRALIA, November 1, 1942, page 517) should be altered to read as follows:

> A complete medical service is essential for the preservation of the health of the community. Such a medical service, however, should be regarded from the great national aspect of the prevention and cure of disease and should be completely divorced from any scheme for the provision of cash benefits, for example, sickness benefits and pensions.
>
> The Royal Commission on National Insurance in its report which was issued in 1926 stated, *inter alia*: "Your Commissioners . . . after reviewing the reports of the experience of other countries, are of the opinion that it is not desirable that these provisions (Health) should be included in any scheme providing for financial benefits."

Clause 25 was altered to read as follows:

> During the past 100 years the friendly societies with the assistance of the medical profession have built up a great system of voluntary health insurance which provides a fairly complete general practitioner service for about a quarter of the population. Within its limitations the service given to friendly society members is of a high order. But a great weakness, and this may be said of all voluntary schemes of insurance, is its incompleteness and inadequacy—it does not provide shelter against "the slings and arrows of outrageous fortune" for those who need it. No medical service can be regarded as satisfactory which does not provide a complete medical service for the whole community and which excludes from its provisions the unemployed and unemployable.

Clause 26 was amended by the deletion of the heading "The Availability of the Service", and paragraphs (1) and (2) were altered to read as follows:

> Although it has been assumed to be a responsibility of the medical profession, the medical care of the indigent is a communal one. There is no reason why the medical profession should alone bear the burden of providing one of the necessities of life. It is clearly undesirable that the method of medical provision in the case of the poorest section of the population should differ from that enjoyed by the community generally.

Clause 28 was amended by the deletion of the second sentence so that it will now read as follows:

> *Specialist Services.*—It is proposed that the consultant and specialist service should be comprehensive and include all necessary facilities in medicine, surgery, obstetrics, and their special branches, as well as pathological and radiological services. The service should be identical with that now available to private patients and would be rendered as a rule in the consulting room of the consultant or in the home of the patient. Although the approach of the patient to the general practitioner should be direct and free, it is essential, in the interest of the patient, that consultant and specialist services should be available on the recommendation of the family doctor. The services in tuberculosis, venereal disease and infectious diseases, where provided by the State authorities, should continue as special services coordinated with, but not necessarily merged into, the main consultative arrangements.

Clause 32 was amended by the deletion of the words "the service" in the last line, and the substitution in lieu thereof of the words "health services". The clause will now read as follows:

> *Doctor and Patient.*—It is appropriate to refer here to certain general features of medical service to which the medical profession, in the interests of the public, attaches great importance.
>
> (a) That the interposition of any third party between the doctor and the patient should in the latter's interest be as limited as possible.
>
> (b) That, as far as is possible, responsibility should be placed on the medical profession itself for the control of the purely professional side of the service, for the maintenance of the highest possible quality of service, and for the discipline of practitioners taking part.
>
> (c) That the organized medical profession should be consulted on all professional matters by those responsible for the administrative and financial control of health services.

Clause 57 was amended by the deletion of all the words after "coordinated" in the second line of the second paragraph. The clause will now read as follows:

> *Administration.*—A fair criticism of health insurance schemes as established previously both in this and other countries, is that it has not been preventive in practice and but little in outlook. This in the main is due to the fact that the financial aspects of schemes have assumed overwhelming importance and the preventive side has been crowded out in the welter of complex administrative difficulties. As previously stated, the Royal Commission on National Insurance in its report published in 1926 states that after reviewing the reports of the experience of other countries, it is not desirable to include medical benefits in any scheme for financial benefits, but they should be dealt with under a national health scheme. The association believes that the organized preventive and curative medical services should be fully coordinated.

Clauses 58 and 59 were deleted.

Dr. A. F. Stokes moved and Dr. George Bell seconded a motion stating that the resolutions passed at the present meeting of the Federal Council defining the policy of the Council in regard to medical planning should be adopted as an addendum to the Federal Council's scheme for a general medical service. The motion was put to the meeting and negatived.

Dr. H. C. Colville said that the matter should not be left in an indefinite state. He wanted to know whether the Federal Council's scheme as amended was a plan. The President expressed the opinion that it was a plan. Dr. C. Craig said that the resolutions previously adopted setting out broad principles were more important than the Federal Council's scheme. After further discussion it was resolved on the motion of Dr. H. C. Colville, seconded by Dr. T. A. Price, that the title of the Federal Council's scheme, "A General Medical Service for Australia", should be amended to read "The Principles which should Govern a General Medical Service for Australia".

It was further resolved on the motion of Dr. H. C. Colville that the heading "III. The Plan" should be deleted, and on the motion of Dr. W. F. Simmons that Clause 22 should be deleted.

It was resolved on the motion of Dr. A. E. Lee, seconded by Dr. H. C. Colville:

> That the resolutions on medical planning adopted at this meeting of the Federal Council be published as the policy of the Federal Council of the British Medical Association in Australia.

The New Zealand Government Scheme for Medical Service.

The General Secretary raised the question of the scheme of medical service operating in New Zealand under the *Social Security Act* of that Dominion and it was resolved that the scheme should be considered.

The Federal Council had before it a report prepared by Dr. Jamieson, Chairman of the National Health Insurance Committee of New Zealand. In this report Dr. Jamieson traced the changes that had taken place in medical practice in New Zealand and at the end stated that it was impossible to say how the system in New Zealand was working because there was no system. The condition of affairs was, in his opinion, an inextricable jumble. There were four things which a family doctor could do: (a) he could work a capitation contract panel at 15s. a member; (b) he could claim 7s. 6d. per attendance from the fund; (c) he could arrange a salary for a "special area"; (d) he could practise exactly as he had always done and leave the patient to collect such refund as he might. Dr. Jamieson then pointed out that several of these methods might be combined, but that such actions were not commendable and were contrary to the high ethical standards of the profession. He was of the opinion that the New Zealand "system" was anything but good and condemned it in the strongest possible terms.

The General Secretary remarked that in New South Wales there had been evidence of a swing from acceptance of a capitation rate towards a fee-for-service method of practice.

The General Secretary asked what answer was to be given if the Federal Council was asked whether the profession would accept a free medical service introduced by the Government. The profession had never said that it was opposed to a free medical service. Dr. A. E. Lee thought that the question of a free medical service concerned the Federal Council very much, for it was not good for the public that its service should be free any more than it was good for them to receive pensions for which they had made no provision themselves. Dr. T. A. Price said that the term "free" was a wrong description for any type of medical service. There was no such thing as a free service. All had to pay, but the individual felt that he was not paying. Sir Henry Newland said that a free medical service should not exclude other forms of medical service. Dr. F. W. Carter said that the spreading of costs over the whole community should have the support of the Federal Council, but that the method adopted for the payment of doctors was an entirely different matter. The two should not be mixed. He proposed a motion stating that in as far as it was an endeavour on the part of the Commonwealth Government to spread the costs over the whole community, the policy of a free medical service for the whole community was one with which the Federal Council agreed. After Dr. H. C. Colville had pointed out that such a motion was in opposition to the resolutions already adopted the motion was put to the meeting and lost.

The Implementation of the Federal Council Scheme.

The General Secretary pointed out that the Federal Council had yet to indicate how the principles of the policy should be implemented. Dr. A. F. Stokes said that there were three responsibilities—one was the responsibility of the Government, the second was the responsibility of the medical profession, and the third was the responsibility of the community. The Government in the first place had to tackle the question of economic stability. It had to see that people had a healthy environment and that housing was satisfactory. It also had to provide hospital accommodation both for patients suffering from acute disease and for those suffering from less acute conditions, or merely from senile changes or chronic illness. The Government had to provide for the indigent, the unemployed and the unemployable, and also had to undertake the organization of public health services. The responsibility of the profession meant that it had to provide a medical service to the community, either by private arrangement or by contract medical practice for those in the lower income groups, on a *per capita* or fee-per-service basis. It was concerned in a salaried service for sparsely populated areas and with subsidized practice in other areas. It also had to see that the ancillary services were provided at a reasonable cost. The community had to deal with the question of finance. It had to be recognized that there was no such thing as free service, for the community always paid in one way or another.

Reference was made to the question of decentralized diagnostic laboratories. Dr. C. Craig pointed out that the Commonwealth laboratories were doing very good service and he thought that they should be extended. Dr. W. F. Simmons did not quite agree with this view. He said that in New South Wales private pathologists had taken up practice in the larger centres—namely, Orange, Lismore and Tamworth—and were doing excellent service for the profession and community. He did not think their work should be sacrificed by the provision of Commonwealth laboratories. Dr. A. E. Lee pointed out that the State councils could watch the needs of different areas and should try to achieve the placing of men where they were required and thus establish diagnostic centres. Dr. F. W. Carter said that in Western Australia there was a serious lack of pathological and diagnostic centres. He thought that they could do with a subsidy for this purpose. With the exception of Kalgoorlie, where a Commonwealth laboratory was in existence, there were no such centres outside Perth.

Dr. H. C. Colville thought that too much time should not be wasted on details, but that emphasis should be laid on the urgent things that the Government should do. There was no immediate urgency about the laboratory question, but there was urgency, extreme urgency, about the provision of hospital beds and equipment. The deficiency was lamentable. Something should be done without delay to make it good. Dr. George Bell thought that when private practitioners could establish diagnostic centres they should do so, but in other areas where they were needed this should be done by the Government. Dr. A. E. Lee thought that economic problems were no concern of the medical profession, but Dr. C. Craig thought that the medical profession should take a share in solving economic problems. The General Secretary pointed out that if the medical profession could put up something which was obviously for the good of the community, their proposals would receive support, but otherwise not.

An Inquiry from the Friendly Societies.

A letter was received from the Friendly Societies of Australia Consultative Committee in which it was stated that the advocacy of group practice by the Branches of the British Medical Association in Australia appeared to be in direct opposition to friendly society lodge practice. The committee wished to know the attitude of the Federal Council. It was resolved on the motion of Dr. A. E. Lee, seconded by Dr. T. A. Price, that the Friendly Societies Committee should be informed that the policy of the Federal Council was to maintain and to improve all existing forms of medical practice.

Invitation to the President to Attend a Meeting of the National Health and Medical Research Council in November, 1942.

The General Secretary read the correspondence that passed between the Director-General of Health of the Commonwealth and Sir Henry Newland, in which the latter was invited in the place of Dr. J. Newman Morris, who was absent overseas, to attend a meeting of the National Health and Medical Research Council at Canberra on November 23, 1942, to consider whether or not portion of the National Health and Medical Research Council's scheme should be adopted. The General Secretary also read the correspondence that passed between the Branches and the Federal Council, together with correspondence between the Federal Council and the Commonwealth Minister for Health, regarding his promise to make no changes in medical practice during the war. The General Secretary then reminded members of the Federal Council that Sir Henry Newland had replied by telegram thanking Dr. Cumpston for his courteous invitation, but adding that in view of the Minister for Health's repeated assurance that no national medical service would be introduced during the war, he must decline to attend. (See The Medical Journal of Australia, January 2, 1943, page 9.) It was resolved, on the motion of Dr. W. F. Simmons, seconded by Dr. A. F. Stokes, that the Federal Council should express its appreciation of the President's action in the matter.

The Bankers' Health Society.

Reference was made by Dr. W. F. Simmons to the Bankers' Health Society, a body registered in Victoria under the *Friendly Societies Act*, 1928. Dr. Simmons said that he had had discussions in Sydney with Mr. A. D. Milne, the General Secretary of the Society, and he thought it would be to the advantage of the medical profession if Mr. Milne was asked to attend the meeting of the Federal Council to place the views of the society before it. It was resolved that Mr. Milne should be invited to attend.

At a later stage in the meeting, Mr. Milne attended and, at the invitation of Sir Henry Newland, explained the operations of the society. The society was one to which bank officers might belong on the payment of a certain annual fee which varied according to whether the officer wished to have his dependants covered or not. The annual fee including dependants was £6 10s., and without dependants £3 5s. For this sum the members received hospital and nursing benefits of £2 2s. a week, up to an annual maximum of £21 per member, free pharmaceutical service, and refunds on account of fees due to a medical practitioner. The amount of refund varied and might amount to 100% in certain circumstances. There was no age limit, and membership was in no way conditional on the amount of salary received. Members had an entirely free choice of medical practitioner. One important provision of the society was that a member might be required to undergo a medical examination if that was thought desirable by the health officer of the society. The average income of persons belonging to the scheme was probably in the neighbourhood of £400 *per annum*. As a point of interest, Mr. Milne said that the Bankers' Health Society had been approached by other bodies, such as the Insurance Staff Federation, the Victorian Teachers' Union, and the Victorian Public Service, with the suggestion that the benefits of the society's scheme might be extended to them. Mr. Milne explained that the Bankers' Health Society had drawn up a scheme for the adaptation of the health society scheme to cover all persons

in the Commonwealth. Under the proposed scheme there would be no disruption of existing health services. Professional services would continue to be a matter of private arrangement between the patient and the practitioner, and would ensure a freedom of choice for the patient and an incentive for the practitioner. The scheme would be a complete form of sickness and health insurance. The benefits obtainable under the scheme would be practically the same as those at present operating in the Bankers' Health Society service. If the hospital benefit was £3 3s. a week the amount payable in respect of each person would be £2 10s. a year, and it was thought that the revenue to finance the service would be obtained from a weekly contribution from employees of 1s. 6d. and of employers of 1s. a week in respect of each employee. Those conducting business on their own account and engaged in primary production would pay 2s. 6d. a week and the Government would pay 6d. a week in respect of every person in the community.

Sir Henry Newland thanked Mr. Milne for his attendance and for his address.

Advice to Members on Active Service of Suggested Alterations in Medical Practice.

The General Secretary reported that a communication had been received from the New South Wales Branch suggesting that members of the association on active service should be advised from time to time of suggested alterations in medical practice. It was resolved that the suggestion should be accepted.

CONTRACT PRACTICE.

Contract Practice Committee.

On the nomination of the Branches, the Contract Practice Committee was appointed as follows: *New South Wales*, Dr. H. R. Grieve; *Queensland*, Dr. L. P. Winterbotham; *South Australia*, Dr. R. J. Verco; *Tasmania*, Dr. J. R. Robertson; *Victoria*, Dr. C. H. Dickson; *Western Australia*, Dr. M. K. Moss.

The Model Federal Common Form of Agreement.

A communication was received from the New South Wales Branch suggesting that the Model Federal Common Form of Agreement should be introduced without delay. The General Secretary read the correspondence with the Branches, and it was resolved, after discussion, on the motion of Dr. W. F. Simmons, seconded by Dr. George Bell, that the Federal Common Form of Agreement should be implemented as soon as possible.

The General Secretary referred to a letter which had been received from the Consultative Committee of the Friendly Societies Association, in which it was suggested that Mr. W. H. Best and Mr. J. Parker might meet the Federal Council to discuss matters of mutual interest. It was resolved that Mr. Best and Mr. Parker be invited to attend the meeting.

When Mr. Best and Mr. Parker attended, Sir Henry Newland welcomed them to the meeting, and asked them to explain the matters mentioned in their letter.

Mr. W. H. Best said that the Consultative Committee of the Friendly Societies Association had been somewhat disturbed by reports of the convention recently held in Sydney. At this convention apparently the future of medical service had been considered, but from the reports that had appeared in the Press, no reference had been made to the friendly societies. The Friendly Societies Association had also heard that in New South Wales some difficulty had arisen; persons working in munition factories had been receiving a medical service that was entirely outside that provided by the friendly societies. Mr. Best referred to the consultations that had taken place between the Federal Council and the friendly societies in 1938 in connexion with national health insurance. The friendly societies were of the opinion that if the Federal Council and the societies had gone further with their conferences in 1938, the present agitation for a free medical service for the people would not have been necessary, and it might have been possible by collaboration to provide a better service than was being given at the present time. The friendly societies thought that if the two bodies could meet now they might improve the present type of medical service and postpone any government action. In any case, they believed that a conference with a general exchange of ideas could not fail to be valuable.

Mr. J. Parker said that the institution of a free service for everybody would affect the friendly societies a great deal. He admitted that the friendly societies had not provided for as many people as those for whom the Government proposed to make provision in its scheme. He thought that particular attention should be paid to persons in the middle income group who could not afford to pay high fees, particularly in the present days of high taxation. At a recent conference the friendly societies in Victoria had endorsed the action of the Consultative Committee in asking for a conference with the Federal Council. The opinion had been expressed that the scope of service must be increased.

Sir Henry Newland then read the resolutions of the Federal Council which had been adopted at the meeting in September, 1942, dealing with the proposed conference with various bodies, including the friendly societies.

The General Secretary said that he wanted to disillusion Mr. Best and his colleagues of any intention on the part of the New South Wales convention to ignore the friendly societies. If the resolutions adopted by the convention were carefully read, it would be clear that it was the policy of the association to maintain the present method of medical practice. The association had always had friendly relations with the friendly societies in New South Wales and other States. At the same time, the General Secretary felt compelled to point out that despite a decision of the Federal Council and Consultative Committee, meeting in conference to institute a Federal Common Form of Agreement, the action of the friendly societies in Victoria had made this impossible. (See THE MEDICAL JOURNAL OF AUSTRALIA, November 14, 1942, page 445.) Dr. W. F. Simmons and Dr. T. A. Price endorsed the remarks of the General Secretary.

Mr. Best, in reply, said that he had listened with interest to all that had been said. Both he and Mr. Parker were in hopes that the Federal Common Form of Agreement would be adopted. They pointed out that they could not take the blame for the action of the Victorian friendly societies in their failure to adopt the decision of the conference already mentioned. He was anxious to see the Federal Common Form of Agreement adopted throughout Australia. He also said that the Victorian Branch of the British Medical Association had been asked to meet the Victorian friendly societies again, and he hoped that if this meeting occurred something useful might be done.

Mr. Parker, in reply, explained the position of himself and Mr. Best. They were members of the Consultative Committee of the Friendly Societies of Australia, but they were also on State Councils and were members of individual societies. Mr. Parker said that he, like Mr. Best, would like to see the Federal Common Form of Agreement introduced.

Mr. Best and Mr. Parker then retired from the meeting.

A letter was received from the Queensland Branch in reference to Clauses 18 and 19 of the Model Federal Common Form of Agreement. These clauses are as follows:

> 17. A medical officer shall, when necessary, and if engaged so to do, administer anæsthetics, payment for which shall be as per arrangement between the member and the medical officer.
>
> 18. The medical officer shall, when required, attend members in cases of fractures and dislocations, payment for which shall be as per arrangement between the member and the medical officer.

The Queensland Branch raised the question of the use of the word "shall" and suggested that the clauses should be amended. It was resolved that legal opinion should be obtained regarding the use of the word "shall" in these two clauses.

Medical Service to Munition Workers and Employees of Other Industrial Organizations.

A communication was received from the Western Australian Branch regarding the admission to medical benefits of chronically ill workers included in any scheme for contract practice, such as those dealing with munition workers and employees of other industrial organizations. The Western Australian Branch thought that employees who became chronically ill in such a service would become a liability to the profession. It was pointed out that once a worker covered by a scheme of this kind became chronically ill, his payments for medical attendance would cease, and it had therefore to be decided for how long he would be attended by the medical officer. In the discussion it was suggested that after a certain period the worker should be treated on a fee-per-service basis. It was pointed out that if a worker was accepted for a medical service at a fee of so much a quarter, he had to receive a quarter's attendance. It was finally resolved that in the event of chronic illness arising, workers in services of this kind should be treated for three months.

Private Contracts for Medical Service Other than Those Connected with Friendly Society Lodges.

A letter was received from the New South Wales Branch conveying a resolution of that Branch that all its members should be asked to send in particulars of any private contracts for medical service other than those connected with friendly society lodges. The New South Wales Branch thought that the Federal Council should be advised of this action as it had a connexion with the Model Federal Common Form of Agreement. It was pointed out that some Branches had already taken steps of this kind and that to others it did not apply.

The Press Publicity Committee.

Dr. George Bell and Dr. W. F. Simmons were reappointed members of the Press Publicity Committee of the Federal Council.

It was pointed out that this committee was appointed to deal only with matters connected with national health insurance. Dr. F. W. Carter said that in the opinion of the Western Australian Branch it would be useful, particularly in the distant States, if the Federal Council had a Publicity Committee which would deal with matters other than national health insurance. He admitted that it was hard to find a suitable man for such work, and he wondered whether it would not be possible to make some arrangement with the New South Wales Branch, possibly a financial arrangement, by which the New South Wales Department of Medical Sociology and Research could be brought into the picture. Dr. H. C. Colville suggested that the newly appointed Press Publicity Committee should consider the possibility of enlarging its activities and report to the next meeting of the Federal Council. He moved a motion to this effect and the motion was carried.

The Allied Works Council.

The Federal Council discussed the terms of employment of medical officers by the Allied Works Council. It was reported that an officer of the Allied Works Council had called at the office of the Victorian Branch on October 27, 1942, to make inquiries regarding medical attendance on employees of the Council and asking that representatives of the association attend a conference at 2 p.m. on October 29, 1942. He was told that the matter was one for the Federal Council to consider. He had suggested that if a factory was situated near the rooms of a practising doctor, he should be called upon to attend the employees, at a payment which was equivalent to that of a captain in the Australian Army Medical Corps. When it was suggested to him that payment should be at contract practice rates, he had replied that that was impossible. The General Secretary had communicated with the President, who had suggested that Dr. F. L. Davies and Dr. H. C. Colville, as a subcommittee of the Federal Council, should discuss the matter with the Allied Works Council's representatives. Unfortunately, owing to the short notice, only forty-eight hours, neither Dr. Colville nor Dr. Davies was able to attend the conference which was held in their absence. A verbal request made some weeks previously to the Chief Medical Officer, Allied Works Council, that the Federal Council be advised of any suggestions regarding the provision of a medical service had not been met. The Allied Works Council had subsequently notified the medical profession of the conditions of service. The result was that medical practitioners had to consider whether they were prepared to accept 12s. a day for a half-day's work or 24s. per day for any time that extended over three hours. The Queensland, Victorian, New South Wales and Western Australian Branches had all protested against the rates of pay. Dr. W. F. Simmons pointed out that special services were paid for at the rates laid down in the Emergency Medical Service schedule. He did not see why the service should not be paid for at the rates laid down in the Emergency Medical Service schedule. The Federal Council then resolved, on the motion of Dr. W. F. Simmons, that all payment for medical service rendered to employees of the Allied Works Council should be at the rate laid down in the schedule named.

Special Groups.

The Federal Council gave consideration to a suggestion of the New South Wales Branch that special groups of specialists and consultants should be formed within the Federal Council to consider scientific matters and the particular problems affecting those members of the profession. After discussion it was resolved that the matter should be left in the hands of the General Secretary.

A Representative Body for Australia.

A communication was read from the New South Wales Branch in which it was stated that the time had arrived for the inauguration of a representative body for Australia. The General Secretary reported that a New South Wales communication had been sent to the Branches. The Victorian Branch replied that it left the matter in the hands of its delegates. The South Australian Branch thought that the Branch members should be consulted before anything of the kind was done. The Queensland Branch did not approve of the suggestion. The Tasmanian Branch did not think the establishment of a representative body was necessary.

Dr. W. F. Simmons moved in terms of the New South Wales letter. Dr. A. F. Stokes explained that the South Australian Branch thought that the question should be referred to Branch members because the establishment of a representative body would greatly increase the financial requirements of the Federal Council. The South Australian Branch Council did not think that it could take part in such an arrangement unless Branch members were first of all consulted. Dr. T. A. Price said that Australia was too large, and though a representative body might serve a general purpose, it would not secure such a satisfactory result as frequent visits to the Branches by members of the Federal Council. Dr. H. C. Colville said that the Victorian Branch thought that the proposal was impracticable and added that it was hard enough to get the Federal Council together. To convene a representative body would be much more difficult. Dr. C. Craig said that the Tasmanian Branch thought that any extra money should be spent in promoting a liaison between the Federal Council and the Branches. Dr. F. W. Carter said that he agreed with the views expressed by Dr. T. A. Price. He wished to see liaison between the Federal Council and the Branches strengthened. Dr. W. F. Simmons, in reply, said that New South Wales had not entered into this question lightly. It realized that the proposal would cost a great deal of money. In an emergency the action of the Federal Council was too slow. In England, when the question of a salaried medical service was discussed, the issue was decided by the representative body which was the parliament of the British Medical Association. Dr. Simmons sometimes wondered if the Federal Council always spoke for all the viewpoints in the several States—namely, country interests, interests of those engaged in industrial practice, specialist interests, and the interests of the general practitioners. Dr. Simmons's motion was then put to the meeting and lost.

Representation of the Federal Council on Outside Bodies.

A communication was received from the Western Australian Branch to the effect that representatives of the Federal Council on outside bodies should be elected annually. The General Secretary reported that he had sent the Western Australian Branch recommendation to the other Branches. The Queensland Branch had written approving of the suggestion. The Victorian Branch had left the matter in the hands of its delegates, and the South Australian Branch had replied that it saw no reason to depart from the present practice. The General Secretary pointed out that a great deal depended on what the outside bodies were. If the Federal Council was asked to elect a representative for a period of three years, it could not reply that it would elect a representative for one year only. Dr. George Bell said that some continuity of service was necessary. Dr. N. M. Cuthbert moved and Dr. F. W. Carter seconded a motion on the lines of the Western Australian Branch recommendation. The motion was lost.

The Gold Medal of the British Medical Association in Australia.

Having obtained the permission of the meeting, Dr. F. L. Davies, on behalf of the Victorian Branch, submitted a proposal that the gold medal of the British Medical Association in Australia should be awarded to Dr. C. H. Mollison, who had been honorary treasurer of the Victorian Branch for more than fifty years. Dr. Davies pointed out that Dr. Mollison had served the Victorian Branch in many capacities and it appeared to the Branch Council that his signal services should receive recognition. It was resolved unanimously, on the motion of Dr. F. L. Davies, seconded by Dr. H. C. Colville:

> That the gold medal of the British Medical Association in Australia be conferred on Dr. C. H. Mollison, honorary treasurer of the Victorian Branch.

PETROL RATIONING AND WET ALCOHOL.

Sir Henry Newland said that Dr. H. C. Colville wished to discuss as a matter of urgency the question of petrol supplies to medical practitioners in Victoria, and he wished to know whether the meeting would consent to the introduction of the subject. The meeting agreed.

Dr. H. C. Colville said that all medical practitioners in Victoria who did not possess gas producers had been ordered by the Liquid Fuel Control Board of Victoria to surrender their licences when they would be issued with new licences for a reduced amount of petrol to be used with wet alcohol. Dr. Colville said that according to expert opinion, wet alcohol had an injurious effect on a motor car engine, certain portions becoming eroded. As far as he could gather, no similar action was contemplated by the Liquid Fuel Control Boards in other States. He did not think it right that members of the medical profession should be compelled to use petrol that might damage their motor cars and put them out of action. It was true that the amount of petrol used by medical practitioners was only a very small part of the total quantity consumed. Dr. Colville insisted that in view of the great amount of work being done by doctors in the service of the armed forces, in hospital services and in civilian services, it was essential that their motor cars should be efficient. It was therefore resolved, on the motion of Dr. H. C. Colville, seconded by Dr. F. L. Davies, as follows:

> That the Federal Council of the British Medical Association in Australia, at present sitting in Melbourne, protests most strongly against the action of the Victorian Liquid Fuel Control Board in compelling medical practitioners in that State to use wet alcohol in their motor cars, and requests the Minister and the Commonwealth Liquid Fuel control Board to intervene and direct the Victorian Board to withdraw its recent instruction.

WAR EMERGENCY ORGANIZATION.

Repatriation Committee.

At several of its previous meetings the Federal Council had discussed a request from the Repatriation Department for the institution of a medical service for the benefit of wives, of orphans and of widowed mothers of men serving with the defence forces in the present war. At its previous meeting in September, 1942, the Federal Council had resolved that in such a service no income limit should apply, that the agreement should be between the Federal Council and the Repatriation Commission, and, *inter alia*, that the rate should be a flat rate, namely, 26s. in the metropolitan areas and 32s. in the country areas. The General Secretary said that he had informed the Branches of the decision of the Federal Council. Subsequently he had received a telegram from the Queensland Branch saying that the Branch Council refused to accept these rates because it would embarrass the Branch in regard to its capitation fee for friendly society lodge practice. The General Secretary said that he had realized that the decision was made by the Federal Council and could not be varied. He saw therefore that no visit that he might make to the Branch could alter the decision. He had therefore communicated with the President of the Federal Council. The President had replied to him that the Federal Council's decision must be adhered to, that the rates of 26s. and 32s. had been agreed to after discussion, and that they could be changed only at another meeting of the Federal Council. Subsequently the General Secretary had received a letter from the Queensland Branch in which it was stated that the Council proposed to discuss at its next meeting the question of secession from the Federal Council. After further communication with the President, it was suggested that Dr. W. F. Simmons, who was visiting one of the local medical associations in the north of New South Wales, might visit the Queensland Branch and discuss the point at issue with the Branch Council. This was done. Dr. Simmons had thrashed the matter out with the Queensland Branch Council and the Council had agreed to accept the Federal Council's decision, with the proviso that the base line for the operation of the nominal wage index should be fixed at the date when the averaging of the lodge rate was carried out—namely, March, 1941—by averaging the nominal wage indices for the four quarters of 1940. New South Wales and Victoria had agreed that the question of the nominal wage index should be taken into consideration.

Dr. A. E. Lee then moved that the basis of the payment by the Repatriation Department for the service in question should be determined on the basis of the Queensland Branch's decision in regard to the nominal wage index. Dr. Lee explained that the Queensland Branch Council had been annoyed because the Federal Council took no notice of several communications from the Branch Council stating that it could not accept the 26s. and the 32s. arrangements. He was quite sure that if the base line was started at the time suggested, the question would be settled. Dr. Lee's motion was seconded by Dr. T. A. Price and carried.

The Rehabilitation of Medical Officers of the Armed Forces.

Sir Henry Newland said that he had discussed with Major-General Burston the subject of the rehabilitation of medical officers of the armed forces. The question was whether the medical coordination committees would take any part in rehabilitation. There were no young men on those bodies, and as at present constituted they could not deal with the subject. The Central Medical Coordination Committee would lapse six months after the war was over. At the same time the experience gained by the Central Medical Coordination Committee and the State committees was extremely valuable. This experience and the data available to the committees should not be wasted. Sir Henry Newland was of the opinion that if the coordination committees were to deal with rehabilitation, it would be helpful if representatives of the medical services of Navy, Army and Air Force under forty-five years of age, and a civilian practitioner under forty-five years of age, could be added to them. In the subsequent discussion, it was pointed out that the Army would undertake the rehabilitation of any of its personnel. (This was referred to again later in the meeting.) Finally it was resolved that it should be a recommendation to the Chairman of the Central Medical Coordination Committee that the Central and State Medical Coordination Committees should form a basis of the committees necessary for the rehabilitation of medical men, and also that to these committees should be added representative medical men of the armed forces and of civilian medical services, under forty-five years of age.

Retirement of the President from the Meeting.

At this stage Sir Henry Newland announced that he had to return to South Australia that night. He asked Dr. George Bell, the Vice-President, to take the chair.

A vote of thanks, moved by Dr. George Bell and seconded by Dr. H. C. Colville, was given to Sir Henry Newland for presiding.

Dr. George Bell then occupied the chair.

Conditions of Service Committee.

The General Secretary pointed out that the Conditions of Service Committee of the Federal Council had to be appointed as its term of office would shortly expire. It was resolved that Dr. F. L. Davies and Dr. H. C. Colville should be reappointed members of the committee, with power to coopt.

The Medical War Relief Fund (Great Britain).

The General Secretary reported that he had received a letter from Dr. G. C. Anderson, C.B.E., Secretary of the British Medical Association in London, thanking the Federal Council for the contributions of the Australian Branches to the Medical War Relief Fund (Great Britain). The total amount sent to England was £4,996.

The Examination of Recruits for Bodies Auxiliary to the Armed Forces.

At its last meeting the Federal Council discussed the examination of recruits for bodies auxiliary to the armed forces. At that meeting it was resolved that in the opinion of the Federal Council such examinations should be carried out by medical officers employed by the Government. The General Secretary reported that he had taken the matter up with the departments concerned. In regard to the Land Army Auxiliary, the department controlling manpower had agreed that the examinations might be conducted by the members of the Australian Army Medical Corps, except in places where none was available. It had been suggested that civilian medical practitioners in these circumstances might undertake to make the examinations, and the General Secretary had replied that they would, of course, be glad to do this. In regard to the Air Training Corps, the department had agreed that recruits could be examined by medical officers of the Royal Australian Air Force. Civilian medical officers were unlikely to be asked to do the work. It was noted that in Queensland a fee of 10s. 6d. had been paid in respect of certain recruits who were examined in accordance with the standard of the examination required for admission to the public service.

The Rehabilitation of Returned Men from the Armed Forces.

The General Secretary reported that he had had correspondence with the Minister for Repatriation regarding the rehabilitation of returned men from the armed forces. He had asked for information about the plans made, because in the opinion of the Federal Council early consideration should be given to the matter. The Minister had replied forwarding a booklet in which an outline of the steps already taken were set out. In a subsequent letter, the Minister had said that it was difficult to amplify the information already given in the booklet, but that a Parliamentary Select Committee had been appointed to go into the matter; four thousand men had already been placed, and certain arrangements for vocational training had been made, and classes were being held. The information was received.

The Indemnity of Medical Practitioners under Venereal Disease and Contraception Regulations.

At the last meeting of the Federal Council attention was drawn to the National Security (Venereal Disease and Contraceptives) Regulations issued on September 1, 1942 (see THE MEDICAL JOURNAL OF AUSTRALIA, October 17, 1942, page 367). It was pointed out on that occasion that under the regulations a person could be apprehended and sent for examination to a legally qualified medical practitioner at such time and place as the Chief Health Officer might direct. The regulations provided that no action should lie against the Commonwealth or any State officer in respect of any apprehension or detention in pursuance of the regulations. There was, however, no indemnity for a medical practitioner who carried out an examination of a suspected person. Unless the person to be examined gave his or her consent, the practitioner making the examination would be liable to an action at law for assault. The Minister was requested to bring in an amendment to the regulations to protect the medical practitioner. The General Secretary reported that he had written to the Director-General of Health of the Commonwealth asking what progress had been made with the proposed action. A reply had been received that a draft amendment had been prepared and that a further amendment had caused a delay in its proclamation. The Director-General had stated that action would be taken as soon as possible.

The Control of Quinine.

The General Secretary reported that a letter had been received from the Medical Equipment Control Committee regarding the issuing of an order for the control of quinine (see THE MEDICAL JOURNAL OF AUSTRALIA, September 12, 1942, page 248). The correspondence had been sent to the several Branches for their information.

Petrol Rationing and Producer Gas Units.

At the last meeting of the Federal Council the General Secretary was instructed to take up again with the Commissioner of Taxation the question of the inclusion of the cost of installing producer gas units on motor cars as income tax deductions. The General Secretary reported that he had done so with the State Fuel Control Board in New South Wales. He had been informed that there were three ways in which deductions could be claimed for gas producer units: (*a*) by depreciation at an annual rate, in the same way as depreciation was claimed for the motor car itself; (*b*) for replacements made in connexion with the gas producer unit itself; (*c*) if the gas producer unit were scrapped, as a deduction for the whole capital value, less the amount already claimed for its depreciation. It was held that in the circumstances there was no justification for amending the provisions. A copy of the reply had been sent to all the Branches.

Employees of Medical Practitioners.

Further reference was made to the Federal Council's action in regard to the calling up of employees of medical practitioners. Correspondence with the Department of Labour and National Service was read. It was noted that the authorities were prepared as far as possible to avoid calling up the domestic servants of medical practitioners. In regard to doctors' secretaries, the department appreciated the difficulties and promised that secretaries would not be withdrawn unless full investigation was made. It was also pointed out that secretaries might enlist in the defence services without waiting to be called up. Dr. A. E. Lee said that the instructions issued would not cover secretaries who were trained nurses. After discussion the General Secretary pointed out that the matter was one which should be taken up with the executive officer of the State Medical Coordination Committee, since that officer had been appointed Deputy Chairman of the special Manpower Committee to control nurses.

Doctors' Coats and Surgeons' Trousers.

Further reference was made to the supply of doctors' coats and surgeons' trousers at a reduced coupon rate, and it was pointed out that certificates were no longer required, but that application should be made direct to the Deputy Commissioner of Rationing.

The Central Medical Coordination Committee.

It was noted that Dr. F. L. Davies had been appointed as a substitute for Dr. J. Newman Morris on the Central Medical Coordination Committee during the absence of the latter overseas.

The Australian Army Medical Corps: Rank of Medical Officers.

A report was received from the Queensland Branch to the effect that senior members of the profession had been called up for duty as consultants and allotted the rank of captain. The General Secretary reported that he had written to the Director-General of Medical Services and had received a reply that appropriate action would be taken. Dr. A. E. Lee said that specialists were being paid at the rate of two guineas per session, whatever the rank. He promised to keep the General Secretary informed of any future developments.

The Australian Army Medical Women's Service.

The General Secretary reported that some exception had been taken to the name chosen as the new designation for the Voluntary Aid Detachment Organization; objection was raised because the service was an auxiliary one and not a service of medical women. The General Secretary reported that he had written to the Director-General of Medical Services, who had replied that the new name was chosen after careful consideration, and that the addition of the word "auxiliary" would have meant a considerable increase in the amount of metal required for the badges of the service. In any case the new designation could not be altered. It was also pointed out that women medical practitioners were granted commissions in the Australian Army Medical Corps.

The Fees of Locum Tenentes.

A letter was received from the New South Wales Branch in regard to the fees payable to a *locum tenens*. The opinion was expressed that in view of the high cost of living, the decision of the Federal Council that *locum tenens* fees should remain at the pre-war level should be altered. Dr. A. E. Lee said that the fees of *locum tenentes* in Queensland had been pegged at twelve guineas a week. Dr. W. F. Simmons said that there was a feeling in New South Wales that a higher rate than twelve guineas should be paid, particularly as many of those undertaking *locum tenens* work were medically unfit for active service, and so were unable to undertake continuous duty. He also said that the cost of living had increased and that taxation had also gone up. Dr. N. M. Cuthbert thought that the Federal Council had no power to fix fees, and asked what the position had been before the war. To this Dr. H. C. Colville replied that the matter was one that was governed by the laws of supply and demand. On the motion of Dr. N. M. Cuthbert, seconded by Dr. C. Craig, the previous resolution of the Federal Council stating that *locum tenens* fees should not exceed those prevailing in peacetime was rescinded. It was then resolved, on the motion of Dr. N. M. Cuthbert, seconded by Dr. F. W. Carter, that it should be a suggestion to Branch Councils that the fees for *locum tenentes* should be from twelve to fourteen guineas a week.

The Nursing, Domestic and Laundry Services of Private Hospitals.

The General Secretary reported that he had received a telegram from the Queensland Branch regarding the nursing, domestic and laundry services of private hospitals. It was stated that unless something was done to protect the staff requirements of these institutions, many of them would soon cease to function. Dr. A. E. Lee said that the position in Queensland was probably unique. The trouble in that State had mainly been brought about by the taking

over of laundries by allied services. Matrons of private hospitals had been deprived of laundry services without any notice, and the position was really acute. Dr. H. C. Colville insisted that the Federal Council should take some action, as the health of the community was affected. Everything possible should be done to keep all available hospital services in Australia functioning. It was resolved on the motion of Dr. H. C. Colville, seconded by Dr. W. F. Simmons, that the manpower authorities should be urged to declare all private hospitals protected undertakings.

MATTERS DEFERRED.

At the previous meeting of the Federal Council, reference had been made to a Federal Emergency (Compensation) Fund, to the public medical services, to the revision of the Federal Council's code of ethics and to the organization of the medical profession; in all four instances, consideration had been deferred. A reference was made again to each of these matters, and it was thought that the time was not opportune for their full discussion. Consideration was again deferred.

RESOLUTIONS SENT BY BRANCH COUNCILS TO THE FEDERAL COUNCIL FOR CONSIDERATION.

Dr. H. C. Colville pointed out that frequently a Branch Council sent to the Federal Council one of its own resolutions for consideration without any explanatory letter to indicate the full purport of the matter with which the resolution dealt. It was resolved, on the motion of Dr. H. C. Colville, seconded by Dr. W. F. Simmons, as follows:

> That the Federal Council request Branch Councils to see that an explanatory letter accompanies any resolution submitted to the Federal Council for consideration and on which other Branch Councils are requested to express an opinion.

DATE AND PLACE OF THE NEXT MEETING.

It was resolved that the date and place of the next meeting should be left in the hands of the President.

Correspondence.

TREATMENT OF BURNS.

SIR: Recently I attended a symposium on "The Treatment of Burns", and, since then, I have wondered why the safe and effective old-fashioned first-aid treatment of picric acid, followed up by boroglyceride dressings, appears to have been discontinued almost entirely in favour of tannic acid treatment (which is by no means devoid of dangers and disadvantages especially when used by inexperienced first-aid personnel) or alkalis or antiseptics (which would surely have little effect in relieving pain). Could not this good old-fashioned treatment have its place in first-aid treatment today?

Yours, etc.,

JESSIE B. SIMPSON.

35, Normanby Street,
Middle Brighton,
Victoria.
March 30, 1943.

THE TREATMENT OF COMPOUND FRACTURES.

SIR: It was surely an unfortunate if accidental omission on the part of the compilers of Supplement 11 to leave a gap between the statistics of Billroth (I have always spelt it Billroth) and those of the Zürich Clinic in which Lister comes into the picture. Perhaps the omission was due to the absence of any statistics of Lister's. All we know is that he had two failures at the outset of his antiseptic system and from then on he writes: "But since the antiseptic system has guided us, not only have ordinary cases of this formidable injury been treated by my successive house surgeons with unvarying success, but limbs such as I should once have condemned without hesitation have gone to complete recovery without either local or constitutional disturbance: a statement which might be suspected of exaggeration were it not that it refers to proceedings in a public hospital, witnessed not only by students, but by gentlemen once my pupils, and now practitioners in Glasgow." Please note there is no mention of non-union, deformity or permanent incapacity for work, unlike those gathered by Winnett Orr "from many sources" noted in the last paragraph of the supplement. Statistics were to Lister a work of supererogation.

Yours, etc.,

A. C. F. HALFORD.

Brisbane,
March 29, 1943.

THE SELECTION OF MEDICAL STUDENTS.

SIR: Might I add to the correspondence on the above my experience of the methods of selection. My daughter was accepted last year in the Faculty of Medicine at the age of sixteen years. Thinking she was too young to absorb the fundaments of medical science, I deferred her for twelve months and put her in a clerical position. This year her application is rejected.

Yours, etc.,

H. G. RICH.

Narrandera,
April 3, 1943.

Naval, Military and Air Force.

DECORATIONS.

Surgeon Commander Charles Anthony Downward, Royal Australian Navy, has been awarded the Distinguished Service Cross.

Surgeon Lieutenant Douglas Arthur Warden, Royal Australian Naval Reserve, and Surgeon Lieutenant Kenneth Newman Morris, Royal Australian Naval Reserve, have been mentioned in dispatches.

Lieutenant-Colonel Bertram Speakman Hanson, O.B.E., A.A.M.C., has been awarded the Distinguished Service Order.

CASUALTIES.

ACCORDING to the casualty list received on April 7, 1943, Captain I. C. Heinz, A.A.M.C., South Yarra, who was previously reported missing, is now reported to be a prisoner of war.

According to the casualty list received on April 8, 1943, Lieutenant-Colonel E. MacA. Sheppard, A.A.M.C., Adamstown, and Major R. E. Maffey, A.A.M.C., Singleton, who were previously reported missing, are now reported to be prisoners of war.

According to the casualty list received on April 12, 1943, Major H. Rayson, A.A.M.C., Manilla, New South Wales, who was previously reported missing, is now reported to be a prisoner of war.

Australian Medical Board Proceedings.

QUEENSLAND.

THE undermentioned have been registered, pursuant to the provisions of *The Medical Acts*, 1939-1940, of Queensland, as specialists in surgery:

Ryan, William Dennis, 195, Dornoch Terrace, Highgate Hill.

Roberts, William Henry, Ballow Chambers, Wickham Terrace.

The undermentioned has been registered, pursuant to the provisions of *The Medical Acts*, 1939-1940, of Queensland, as specialist in pædiatrics:

Jackson, David Clements, on active service.

The undermentioned has been registered, pursuant to the provisions of *The Medical Acts*, 1939-1940, of Queensland, as specialist in oto-rhino-laryngology:

Dittmer, Felix Cyril Sigismund, Ballow Chambers, Wickham Terrace.

The undermentioned have been registered, pursuant to the provisions of *The Medical Acts*, 1939-1940, of Queensland, as specialists in gynæcology and obstetrics:

Free, Edgar Grove, 592, Lutwyche Road, Wooloowin.
Clayton, George Edward Burdekin, Pomona.

The undermentioned has been registered, pursuant to the provisions of *The Medical Acts*, 1939-1940, of Queensland, as specialist in anæsthetics:

Atkinson, James Arthur Lionel, on active service.

Obituary.

WILLIAM CLEAVER WOODS.

We regret to announce the death of Dr. William Cleaver Woods, which occurred on April 9, 1943, at Albury, New South Wales.

BRIAN FORMBY MOORE.

We regret to announce the death of Dr. Brian Formby Moore, which occurred on April 11, 1943, at Victor Harbour, South Australia.

ARTHUR EDWARD HARRISON SALTER.

We regret to announce the death of Dr. Arthur Edward Harrison Salter, which occurred on April 17, 1943, at Homebush, New South Wales.

Nominations and Elections.

The undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Abbott, Jack Henry Palmer, M.B., B.S., 1942 (Univ. Sydney), Newcastle Hospital, Newcastle.
Murray, Victor Reginald Ernest, M.B., B.S., 1941 (Univ. Sydney), Balranald.

Medical Appointments.

The undermentioned have been appointed members of the State Nutritional Advisory Board of Queensland: Sir Raphael West Cilento (chairman), Dr. Noel Middleton Gutteridge, Dr. Douglas Harry Kedgwin Lee, Dr. Thomas Henry Reeve Mathewson, Dr. Aubrey David Dick Pye, Dr. Leslie St. Vincent Welch.

Dr. Philip Gilbert has been appointed a member of the Child Welfare Advisory Council of New South Wales under the provisions of the *Child Welfare Act*, 1939, of New South Wales.

Lieutenant-Colonel William George Dismore Upjohn, O.B.E., has been appointed a member of the Central Medical Coordination Committee and also deputy chairman of the same committee in accordance with the provisions of the National Security (Medical Coordination and Equipment) Regulations.

Lieutenant-Colonel Howard Boyd Graham, D.S.O., M.C., has been appointed Executive Officer of the State Medical Coordination Committee of Victoria in accordance with the National Security (Medical Coordination and Equipment) Regulations.

Dr. William Edward Lodewyk Hamilton Crowther has been appointed Quarantine Officer at Hobart, Tasmania, under the provisions of the *Quarantine Act*, 1908-1924.

Dr. Nigel Abbott has been appointed Deputy Quarantine Officer at Hobart, Tasmania, under the provisions of the *Quarantine Act*, 1908-1924.

Dr. Lorna Margaret Archibald, pursuant to the provisions of *The Health Acts*, 1937-1941, of Queensland, has been appointed Temporary Health Officer in the Department of Health and Home Affairs, Queensland.

Books Received.

"The 1942 Year Book of Obstetrics and Gynecology", edited by J. P. Greenhill, B.S., M.D., F.A.C.S.; 1943. Chicago: The Year Book Publishers, Incorporated. 7¼" × 4¾", pp. 672, with illustrations. Price: $3.00, post paid.

Diary for the Month.

APR. 27.—New South Wales Branch, B.M.A.: Medical Politics Committee.
APR. 28.—Victorian Branch, B.M.A.: Council.
APR. 29.—New South Wales Branch, B.M.A.: Branch.
APR. 29.—South Australian Branch, B.M.A.: Branch.
APR. 30.—Queensland Branch, B.M.A.: Council.
MAY 4.—New South Wales Branch, B.M.A.: Organization and Science Committee.
MAY 5.—Victorian Branch, B.M.A.: Branch.
MAY 5.—Western Australian Branch, B.M.A.: Council.
MAY 6.—South Australian Branch, B.M.A.: Council.
MAY 7.—Queensland Branch, B.M.A.: Branch.
MAY 11.—Tasmanian Branch, B.M.A.: Branch.
MAY 11.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
MAY 14.—Queensland Branch, B.M.A.: Council.
MAY 18.—New South Wales Branch, B.M.A.: Ethics Committee.
MAY 19.—Western Australian Branch, B.M.A.: Branch.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phœnix Mutual Provident Society.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

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